

REPORT NUMBER: 217-MGA-03-001

**SAFETY COMPLIANCE TESTING FOR  
FMVSS NO. 217  
SCHOOL BUS EMERGENCY EXITS AND WINDOW  
RETENTION AND RELEASE**

**2003 American Transportation Corporation  
IC3S530 School Bus  
NHTSA No.: C30902**

**PREPARED BY:  
MGA RESEARCH CORPORATION  
5000 WARREN ROAD  
BURLINGTON, WI 53105**



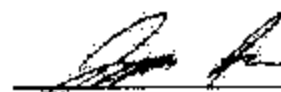
**Final Report Date: March 6, 2003**

**FINAL REPORT**

**PREPARED FOR:  
U.S. DEPARTMENT OF TRANSPORTATION  
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION  
ENFORCEMENT  
OFFICE OF VEHICLE SAFETY COMPLIANCE  
400 SEVENTH STREET, SW, ROOM 6115 (NVS-220)  
WASHINGTON, D.C. 20590**

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Date: March 6, 2003


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Date: March 6, 2003

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# Technical Report Documentation Page

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16. Abstract Compliance tests were conducted on the subject 2003 American Transportation Corp IC3S530 School Bus, NHTSA No. C30902 in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-217-06 for the determination of FMVSS 217 compliance.  Test failures were as follows: 1. The retroreflective tape outlining the exterior of the front and rear roof hatch opening is silver in color. FMVSS 217 requires the retroreflective tape color to be either white, red, or yellow in color for emergency exits.					
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**SECTION 1**  
**PURPOSE OF COMPLIANCE TEST**

Tests were conducted on a MY2003 American Transportation Corp 1C3S530 School Bus, NHTSA No. C30902, in accordance with the specifications of the Office of Vehicle Safety Compliance (OVSC) Test Procedures TP-217-06 to determine compliance to the requirements of Federal Motor Vehicle Safety Standards (FMVSS) 217, "School Bus Emergency Exits and Window Retention and Release".

This program is sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. DTNH22-02-D-01057.

**SECTION 2**  
**TEST DATA SUMMARY**

Based on the tests performed, the MY2003 American Transportation Corp IC3S530 School Bus, NHTSA No. C30902 did not appear to meet the requirements of FMVSS 217. See Data Sheet 1 for Test Summary on the following page.

**DATA SHEET 1**  
**TEST SUMMARY**

**GENERAL VEHICLE IDENTIFICATION**

Model Year/Make/Model:	2003 American Transportation Corp.	
NHTSA No.:	C30902	
GVWR:	12,474 kg	
Build Date for Bus Chassis:	Not Found	
VIN:	4DRBRABN73B955119	
Chassis VIN:	Not Found	
Seating Capacity:	65	
Type of Bus:	Type C	
Tire Pressure from tire placard (at capacity):	Front: 758 kPa	Rear: 689 kPa
Odometer Reading:	1680 km	

	PASS/FAIL
<b>S5.1 WINDOW RETENTION</b>	<b>PASS</b>
<b>S5.2 PROVISION OF EMERGENCY EXITS</b>	<b>PASS</b>
Meets minimum exit provisions	<b>PASS</b>
Meets all other exit requirements	<b>PASS</b>
Meets requirements for additional exits	<b>PASS</b>
<b>S5.2.3.1.A EMERGENCY EXIT DOOR OPERATIONAL REQUIREMENTS</b>	<b>PASS</b>
<b>S5.3 EMERGENCY EXIT RELEASE</b>	<b>PASS</b>
Forces to unlatch the emergency exits	<b>PASS</b>
Forces to open the emergency exits	<b>PASS</b>
<b>S5.4 EMERGENCY EXIT OPENING</b>	<b>PASS</b>
<b>S5.5 EMERGENCY EXIT LABELING AND IDENTIFICATION</b>	<b>FAIL</b>
<b>49CFR 571.131 S5.6 TAPE REFLECTIVITY</b>	<b>NOT TESTED</b>

COMMENTS: NONE

**SECTION 3**  
**COMPLIANCE TEST DATA**

The following data sheets document the results of testing on the 2003 American Transportation Corp IC3S530 School Bus, NHTSA No. C30902.

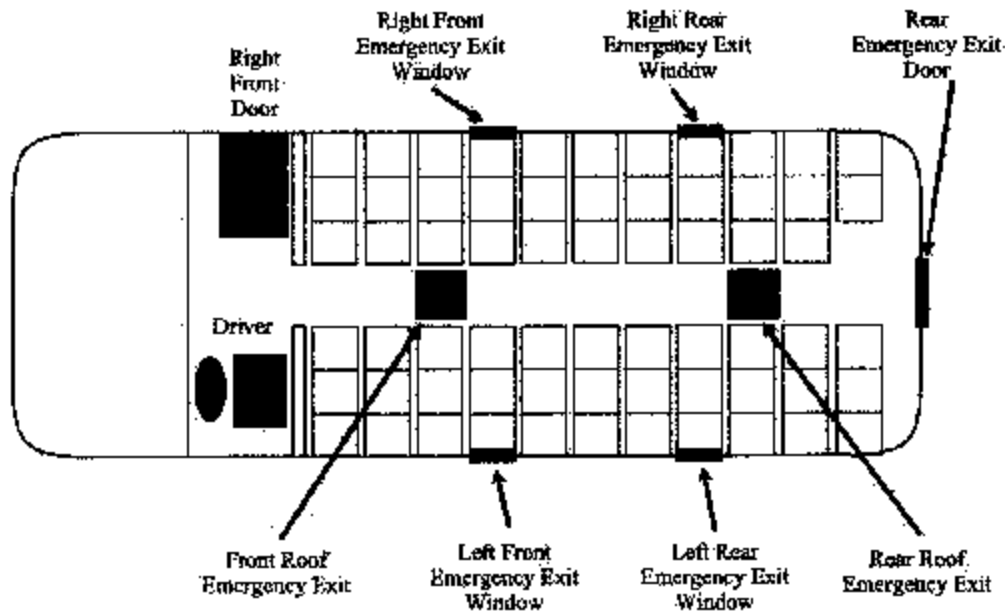


## DATA SHEET 2

### PROVISION OF EMERGENCY EXITS

Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus  
 Test Lab: MGA Research-Wisconsin Operations

NHTSA No.: C30902  
 Test Date: 1/08/03



		Height (mm)	Width (mm)
1	Left Front Exit Window	485	595
2	Left Rear Exit Window	485	595
3	Right Front Exit Window	485	595
4	Right Rear Exit Window	485	595
5	Rear Exit Door	1313	920
6	Roof Exit – Front	513	565
7	Roof Exit – Rear	513	565

Seating Capacity: 65 (Including Driver)

	PASS/FAIL
Bus meets minimum emergency exit provision, based upon Table 1	PASS

Comments: NONE

**DATA SHEET 2 (CONTINUED)**  
**PROVISION OF EMERGENCY EXITS**

		PASS/FAIL
1	Rear Emergency Door – opens outward and is hinged on the right side (either side, if the bus has a GVWR of 10,000 pounds or less)	PASS
2	Side Emergency Door – hinged on its forward side. No more than one side emergency exit door is located, in whole or in part, within the same post and roof bow panel space.	N/A
3	Rear Push Out Window – provides a minimum opening clearance 41 cm high and 122 cm wide (16" x 48")	N/A
4	Roof Exit – is hinged on its forward side, and operable from both the inside and outside the vehicle	PASS
5	There is an even number of side emergency exit windows on each side of bus.	PASS
6	The bus is not equipped with both sliding and push-out windows, (except for buses equipped with rear push out emergency exit windows).	PASS
7	A right side emergency exit door	N/A

COMMENTS: NONE

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 3**  
**EMERGENCY EXIT DOOR OPERATIONAL REQUIREMENTS**

Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus  
Test Lab: MGA Research-Wisconsin Operations

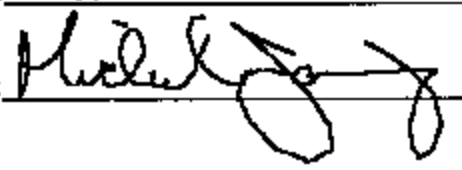
NHTSA No.: C30902  
Test Date: 1/08/03

		PASS/FAIL
1	The engine starting system does NOT operate if any Emergency Exit is LOCKED	N/A <sup>(1)</sup>
2	All Emergency Door and Roof Exits can be released by one person (from inside and outside of bus)	PASS
3	When the Release Mechanism is NOT in the closed position and the vehicle ignition is in the "ON" position, there is a continuous warning sound audible at the Driver's DSP and in the vicinity of the Emergency Door(s) having the unclosed mechanism.	PASS
4	Emergency exit release mechanism does not use remote controls or central power systems	PASS

**COMMENTS:**

<sup>(1)</sup> The emergency exits cannot be locked.

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 4A**  
**EMERGENCY EXIT IDENTIFICATION AND LABELING**


Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus      NHTSA No.: C30902  
Test Lab: MGA Research-Wisconsin Operations      Test Date: 1/08/03


**EMERGENCY EXIT LABELING - INTERIOR**

Exit Location	Left Front	Left Rear	Right Front	Right Rear	Roof Exit - Front	Roof Exit - Rear	Rear Door
Exit Description	Exit Window	Exit Window	Exit Window	Exit Window	Roof Hatch	Roof Hatch	Exit Door
Letter Height (cm)	5.0	5.0	5.0	5.0	5.2	5.2	5.0
Background Color	White	White	White	White	White	White	White
Location Inside	Above Window	Above Window	Above Window	Above Window	Center of Roof Hatch	Center of Roof Hatch	Above Door
Pass/Fail	PASS	PASS	PASS	PASS	PASS	PASS	PASS

**OPERATING INSTRUCTIONS - INTERIOR**

Exit Location	Left Front	Left Rear	Right Front	Right Rear	Roof Exit - Front	Roof Exit - Rear	Rear Door
Instructions	Lift Handle and Push Out to Open	Lift Handle and Push Out to Open	Lift Handle and Push Out to Open	Lift Handle and Push Out to Open	To Exit: Turn Handle and Push	To Exit: Turn Handle and Push	To Open Lift Up Red Bar Push Out
Letter Height (cm)	1.1	1.1	1.1	1.1	1.2	1.2	2.5 and 1.6
Letter Color	Black	Black	Black	Black	Red	Red	Black
Background Color	White	White	White	White	White	White	White
Distance From Release (cm)	1.5	2.0	2.5	2.0	5.4	5.3	3.0
Reflective Tape Color	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Reflective Tape Width	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 4B**  
**EMERGENCY EXIT IDENTIFICATION AND LABELING**


Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus      NHTSA No.: C30902  
Test Lab: MGA Research-Wisconsin Operations      Test Date: 1/08/03


**EMERGENCY EXIT LABELING - EXTERIOR**

Exit Location	Left Front	Left Rear	Right Front	Right Rear	Roof Exit - Front	Roof Exit - Rear	Rear Door
Exit Description	Exit Window	Exit Window	Exit Window	Exit Window	Roof Hatch	Roof Hatch	Exit Door
Letter Height (cm)	5	5	5	5	5.2	5.2	5.2
Background Color	Yellow	Yellow	Yellow	Yellow	White	White	Yellow
Location Inside	Above Window	Above Window	Above Window	Above Window	Top Center of Hatch	Top Center of Hatch	Above Door
Pass/Fail	PASS	PASS	PASS	PASS	PASS	PASS	PASS

**OPERATING INSTRUCTIONS - EXTERIOR**

Exit Location	Left Front	Left Rear	Right Front	Right Rear	Roof Exit - Front	Roof Exit - Rear	Rear Door
Instructions	None	None	None	None	Turn Handle & Lift	Turn Handle & Lift	None
Letter Height (cm)	---	---	---	---	2.0	2.0	---
Letter Color	---	---	---	---	Red	Red	---
Background Color	---	---	---	---	White	White	---
Distance From Release (cm)	---	---	---	---	10 cm	10 cm	---
Reflective Tape Color	Yellow	Yellow	Yellow	Yellow	Silver	Silver	Yellow
Reflective Tape Width	2.5	2.5	2.5	2.5	2.5	2.5	2.5 cm

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 4 (CONTINUED)**  
**EMERGENCY EXIT IDENTIFICATION AND LABELING**

Test Vehicle: **2003 American Transportation Corp IC3S530 School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**  
 Test Date: **1/08/03**

		PASS/FAIL
1	Each required Emergency Exit is labeled with the words "Emergency Exit" or "Emergency Door" as appropriate in letters at least 5 cm high (2") of a color that contrasts with its background.	PASS
2	Emergency Doors – The designation "Emergency Exit" or "Emergency Door" is located at the top of, or directly above the exit door on both inside and outside surfaces of the bus.	PASS
3	Roof Exits – The designation for roof exits is located on an inside surface of the exit, or within 30 cm (11.8") of the roof exit opening.	PASS
4	Emergency Window Exits – The designation is located at the top of, or directly above, or at the bottom of the emergency window exit on both the inside and outside surfaces of the bus.	PASS
5	Exit Operating Instructions indicate all motions required to unlatch and open the exit, in letters at least 1 cm (.39") high and of a color that contrast with its background and shall be located within 15 cm (5.9") of the release mechanism on the inside surface of the bus.	PASS
6	Each required Emergency Exit opening is outlined around its perimeter with a 2.5 cm (1") wide retroreflective tape of red, white, or yellow color.	FAIL <sup>(1)</sup>

**COMMENTS:**

<sup>(1)</sup> The retroreflective tape outlining the exterior of the front and rear roof hatch opening is silver in color. FMVSS 217 requires the retroreflective tape color to be either white, red, or yellow in color for emergency exits.

Recorded By: 

Approved By: 

Date: **1/8/03**

**DATA SHEET 5  
TAPE RELECTIVITY TEST**

Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus    NHTSA No.: C30902  
Test Lab: MGA Research-Wisconsin Operations    Test Date: 1/08/03

\_\_\_\_\_ Color of retroreflective tape (white, red, or yellow)  
\_\_\_\_\_ Glass bead retroreflective element material – Fill in Part A  
\_\_\_\_\_ Prismatic retroreflective element material – Fill in Part B

**SPECIFIC INTENSITY PER UNIT AREA**  
(Candela Per Foot Candle Per Square Foot)

Observation Angle	Entrance Angle	Min. Req'd. Intensity	Recorded Intensity	Pass/Fail
Part A – Glass Bead				
Part B - Prismatic				

This section of tape passes the REFLECTIVITY requirement.    Yes\_\_\_    No\_\_\_

COMMENTS: Not Tested

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 6A**  
**FORCE TESTS TO UNLATCH THE EMERGENCY EXITS - INTERIOR**

Test Vehicle: **2003 American Transportation Corp IC3S530 School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**


NHTSA No.: **C30902**  
 Test Date: **1/08/03**

Exit Location	Exit Description	High/Low Force Area	Maximum Force Requirement Newtons	Actual Force Measured (N)	Motion(s) required to Release Exit	Actual Motion(s) to Release Exit	PASS/FAIL
Left Front	Exit Window	High & Low	89	1. 22.5	Rotary	Rotate Handle Upward Counter Clockwise	PASS
				2. 18.5			
				3. 20.0			
				Average: 20.3			
Left Rear	Exit Window	High & Low	89	1. 9.0	Rotary	Rotate Handle Upward Counter Clockwise	PASS
				2. 8.0			
				3. 11.0			
				Average: 9.3			
Right Front	Exit Window	High & Low	89	1. 13.0	Rotary	Rotate Handle Upward Clockwise	PASS
				2. 13.5			
				3. 16.5			
				Average: 14.3			
Right Rear	Exit Window	High & Low	89	1. 32.0	Rotary	Rotate Handle Upward Clockwise	PASS
				2. 31.0			
				3. 28.5			
				Average: 30.5			
Roof Exit - Front	Roof Hatch	High & Low	89	1. 37.5	Rotary	Rotate Handle 90° Counter Clockwise	PASS
				2. 42.0			
				3. 41.5			
				Average: 40.3			
Roof Exit - Rear	Roof Hatch	High & Low	89	1. 28.0	Rotary	Rotate Handle 90° Counter Clockwise	PASS
				2. 25.0			
				3. 23.0			
				Average: 25.3			
Rear Door	Door Exit	High	178	1. 54.0	Rotary	Rotate Handle Upward Clockwise	PASS
				2. 49.0			
				3. 52.5			
				Average: 51.8			



COMMENTS: NONE

Recorded By: 

Approved By: 

Date: 1/8/03



**DATA SHEET 6B**  
**FORCE TESTS TO UNLATCH THE EMERGENCY EXITS - EXTERIOR**

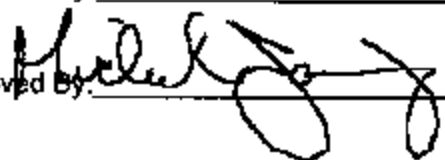
Test Vehicle: **2003 American Transportation Corp IC3S530 School Bus**  
 Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**  
 Test Date: **1/08/03**

Exit Location	Exit Description	High/Low Force Area	Maximum Force Requirement Newtons	Actual Force Measured (N)	Motion(s) required to Release Exit	Actual Motion(s) to Release Exit	PASS/FAIL
Left Front	Exit Window	High & Low	89	1. ---	N/A	N/A	N/A
				2. ---			
				3. ---			
				Average:			
Left Rear	Exit Window	High & Low	89	1. ---	N/A	N/A	N/A
				2. ---			
				3. ---			
				Average:			
Right Front	Exit Window	High & Low	89	1. ---	N/A	N/A	N/A
				2. ---			
				3. ---			
				Average:			
Right Rear	Exit Window	High & Low	89	1. ---	N/A	N/A	N/A
				2. ---			
				3. ---			
				Average:			
Roof Exit - Front	Roof Hatch	High	89	1. 65.0	Rotary	Rotate Handle 90° Clockwise	PASS
				2. 68.5			
				3. 69.5			
				Average: 67.7			
Roof Exit - Rear	Roof Hatch	High	89	1. 48.0	Rotary	Rotate Handle 90° Clockwise	PASS
				2. 47.0			
				3. 59.0			
				Average: 51.3			
Rear Door	Door Exit	High	178	1. 160.5	Rotary or Straight	Pull Handle Upward Counter Clockwise	PASS
				2. 136.0			
				3. 140.5			
				Average: 145.7			

COMMENTS: NONE

Recorded By  

Approved By 

Date: 1/8/03

**DATA SHEET 7A**  
**FORCE TESTS TO OPEN THE EMERGENCY EXITS - INTERIOR**

Test Vehicle: 2003 American Transportation Corp IC33530 School Bus      NHTSA No.: C30902  
 Test Lab: MGA Research-Wisconsin Operations      Test Date: 1/08/03

Exit Location	Exit Description	High/Low Force Area	Maximum Force Requirement Newtons	Actual Force Measured (N)	Motion(s) required to Open Exit	Actual Motion(s) to Open Exit	Passage of Ellipsoid or Parallelepiped	PASS/FAIL
Left Front	Exit Window	High & Low	178	1. 22.5	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	Ellipsoid	PASS
				2. 23.5				
				3. 23.5				
				Average: 23.2				
Left Rear	Exit Window	High & Low	178	1. 46.0	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	Ellipsoid	PASS
				2. 38.5				
				3. 48.0				
				Average: 41.2				
Right Front	Exit Window	High & Low	178	1. 22.0	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	Ellipsoid	PASS
				2. 24.5				
				3. 22.0				
				Average: 22.8				
Right Rear	Exit Window	High & Low	178	1. 47.5	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	Ellipsoid	PASS
				2. 45.5				
				3. 44.0				
				Average: 45.7				

**Describe in the comments section if more than one force and motion are required to unlatch the exit.**


**DATA SHEET 7A (CONTINUED)**  
**FORCE TESTS TO OPEN THE EMERGENCY EXITS - INTERIOR**


Test Vehicle: 2003 American Transportation Corp IC3S630 School Bus      NHTSA No.: C30902  
 Test Lab: MGA Research-Wisconsin Operations      Test Date: 1/08/03

Exit Location	Exit Description	High/Low Force Area	Maximum Force Requirement Newtons	Actual Force Measured (N)	Motion(s) required to Open Exit	Actual Motion(s) to Open Exit	Passage of Ellipsoid or Parallelepiped	PASS/FAIL
Roof Exit - Front	Roof Hatch	High	178	1. 60.0	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	Ellipsoid	PASS
				2. 62.5				
				3. 58.5				
				Average: 60.3				
Roof Exit - Rear	Roof Hatch	High	178	1. 66.0	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	Ellipsoid	PASS
				2. 83.0				
				3. 64.0				
				Average: 71.0				
Rear Door	Door Exit	High	178	1. 24.5	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Push	114x61x30 Parallelepiped	PASS
				2. 22.5				
				3. 22.5				
				Average: 23.2				

Describe in the comments section if more than one force and motion are required to unlatch the exit.

COMMENTS: NONE

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 7B**  
**FORCE TESTS TO OPEN THE EMERGENCY EXITS - EXTERIOR**

Test Vehicle: 2003 American Transportation Corp IC3S630 School Bus      NHTSA No.: C30902  
 Test Lab: MGA Research-Wisconsin Operations      Test Date: 1/08/03

Exit Location	Exit Description	High/Low Force Area	Maximum Force Requirement Newtons	Actual Force Measured (N)	Motion(s) required to Open Exit	Actual Motion(s) to Open Exit	Passage of Ellipsoid or Parallelepiped	PASS/FAIL
Roof Exit - Front	Roof Hatch	High	178	1. 44.0	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Pull	Ellipsoid	PASS
				2. 45.5				
				3. 46.5				
				Average: 45.3				
Roof Exit - Rear	Roof Hatch	High	178	1. 53.5	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Pull	Ellipsoid	PASS
				2. 61.5				
				3. 62.0				
				Average: 59				
Rear Door	Door Exit	High	178	1. 26.5	Straight and Perpendicular to the undisturbed exit surface	Straight Outward Pull	114x61x30 Parallelepiped	PASS
				2. 28.5				
				3. 25.0				
				Average: 26.7				

Describe in the comments section if more than one force and motion are required to unlatch the exit.

COMMENTS: NONE

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 8  
EMERGENCY EXIT EXTENSION**

Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus  
Test Lab: MGA Research-Wisconsin Operations

NHTSA No.: C30902  
Test Date: 1/08/03

		PASS/FAIL
1	Exit(s) can be extended by a single person.	PASS
2	Each emergency exit door is equipped with a positive door opening device that meets the requirements (outlined in Section S5.4.1 (3) of FMVSS 217).	PASS
3	There is a 30 cm (11.81") wide clear aisle space for each side emergency door exit.	N/A
4	There is no seat or barrier which extend past the side door opening	N/A
5	For flip-up seat adjacent to the side emergency door exit it automatically assumes and retain a vertical position when not in use, so that no portion of the seat bottom is within the 30 cm (11.81") aisle clearance space	N/A
6	There is no obstruction of door latch mechanism for the rear emergency door.	PASS

COMMENTS: NONE

Recorded By: 

Approved By: 

Date: 1/8/03

**DATA SHEET 9  
WINDOW RETENTION TEST**

Test Vehicle: **2003 American Transportation Corp IC3S530 School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**  
Test Date: **1/08/03**

1	Test Window Identification:	Left Front Exit Window – Top Glazing
2	Provide a detailed description of the window such as fixed, push out, single or double glazed, horizontal or vertical sliding, etc.	Push Out Exit Operation
3	Provide the horizontal and vertical glazing dimensions for each panel.	544 mm x 216 mm
4	Did the window pass the retention requirements? Describe how the window structure and glazing withstood the force per the PASS/FAIL criteria:	Glazing Shattered at 210 kg - PASS
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test?	PASS 14.8 N to Unlatch 20.8 N to Open

COMMENTS: NONE

Recorded By: 

Approved By: 

Date: 1/8/03



**DATA SHEET 9 (CONTINUED)**  
**WINDOW RETENTION TEST**

Test Vehicle: **2003 American Transportation Corp IC3S530 School Bus**  
Test Lab: **MGA Research-Wisconsin Operations**

NHTSA No.: **C30902**  
Test Date: **1/08/03**

1	Test Window Identification:	Right Front Exit Window – Top Glazing
2	Provide a detailed description of the window such as fixed, push out, single or double glazed, horizontal or vertical sliding, etc.	Push Out Exit Operation
3	Provide the horizontal and vertical glazing dimensions for each panel.	544 mm x 216 mm
4	Did the window pass the retention requirements? Describe how the window structure and glazing withstood the force per the PASS/FAIL criteria:	Glazing deflected 38 mm at 257 kg without creating a 102 mm opening <b>PASS<sup>(1)</sup></b>
5	Did the window pass the force tests to unlatch and open the exit after the completion of the retention test?	<b>PASS</b> 14.2 N to Unlatch 27.0 N to Open

**COMMENTS:**

<sup>(1)</sup> Window reached the deflection requirement of S.5.1

Recorded By: 

Approved By: 

Date: 1/8/03

**SECTION 4  
INSTRUMENTATION AND EQUIPMENT LIST**

Test Vehicle: 2003 American Transportation Corp IC3S530 School Bus  
Test Lab: MGA Research-Wisconsin Operations

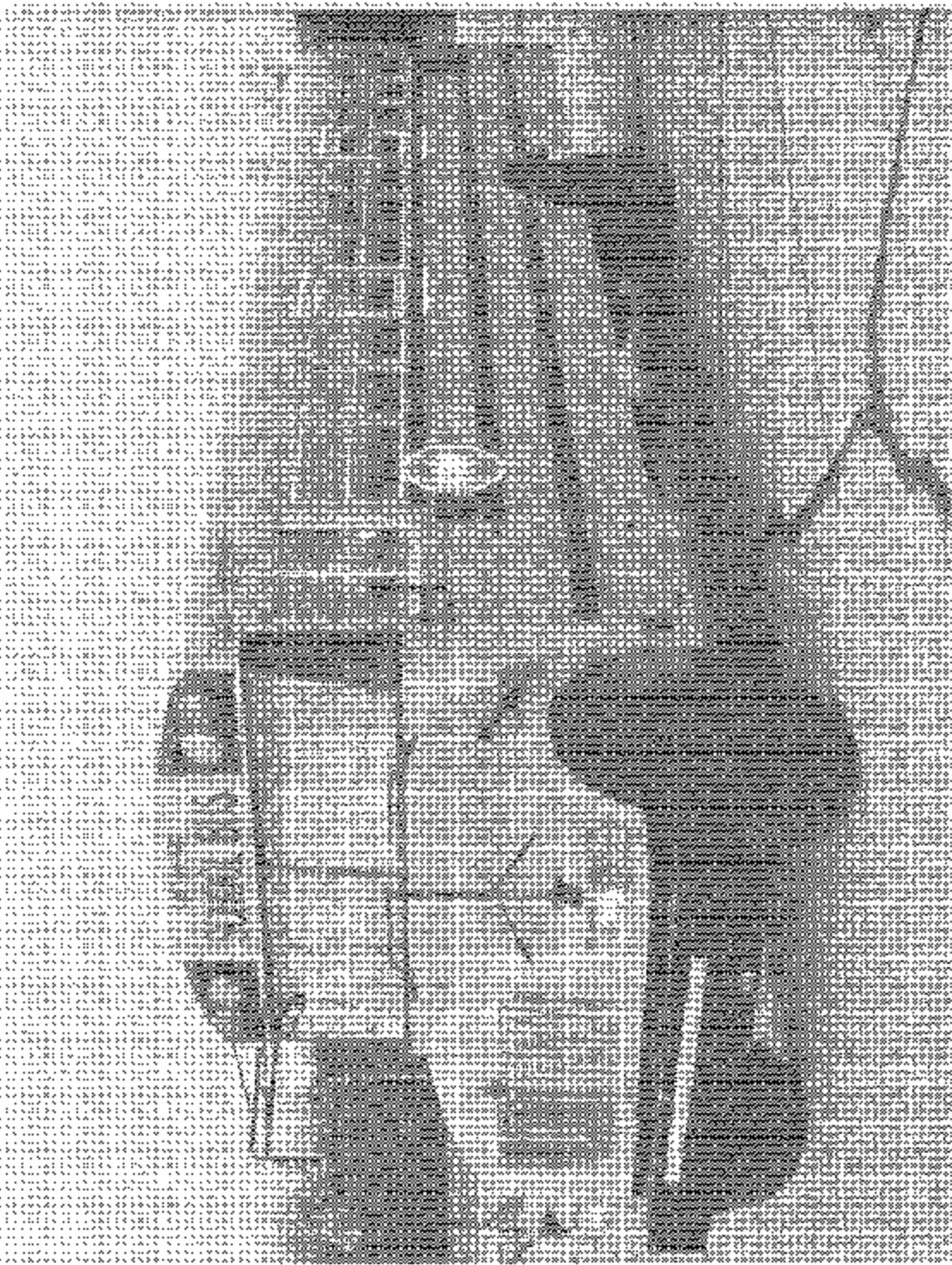
NHTSA No.: C30902  
Test Date: 1/08/03

Equipment	Description	Model/Serial No.	Cal. Date	Next Cal. Date
Computer	HP	Vectra / US03263612	---	---
Head Form	MGA	217	12/4/02	5/4/03
A/D Interface	Metrabyte	DAS-1802	---	---
Sphere	MGA	Sphere - 1A	12/4/02	5/4/03
Load Cell	Interface	1210AF / 88409A	10/18/02	4/18/03
Inclinometer	Digital Protractor	Pro 360 / Comp Lab	11/15/02	5/15/03
Linear Potentiometer	Celeasco	PT-101-40A / A04253	1/08/03	7/8/03
Scale	GEI	Metric / 1	1/6/03	7/6/03
Steel Tape	Stanley	Powerlock / 101	10/28/02	4/28/03
Camera	Sony	DSC-S75	---	---
Ellipsoid	MGA	ELLIP - 1A	12/4/02	5/4/03
Parallelepiped	MGA	PARA - 1A	12/4/02	5/4/03
Force Gauge	Chatillon	DFGS-R-ND / F31754	12/13/02	6/13/03
Temp. Recorder	Oregon Scientific	WM-918	10/18/02	4/18/03

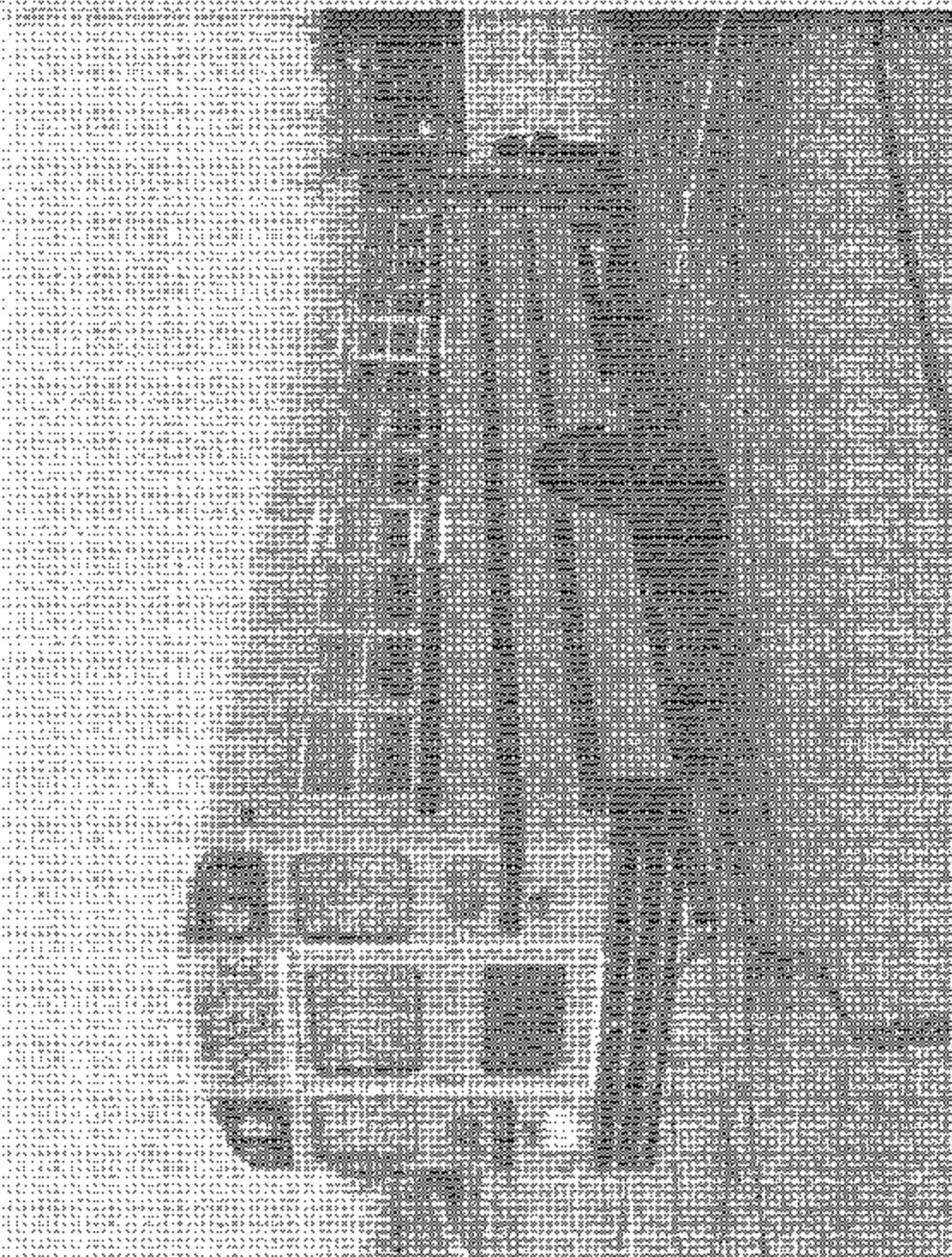
**SECTION 5**  
**PHOTOGRAPHS**

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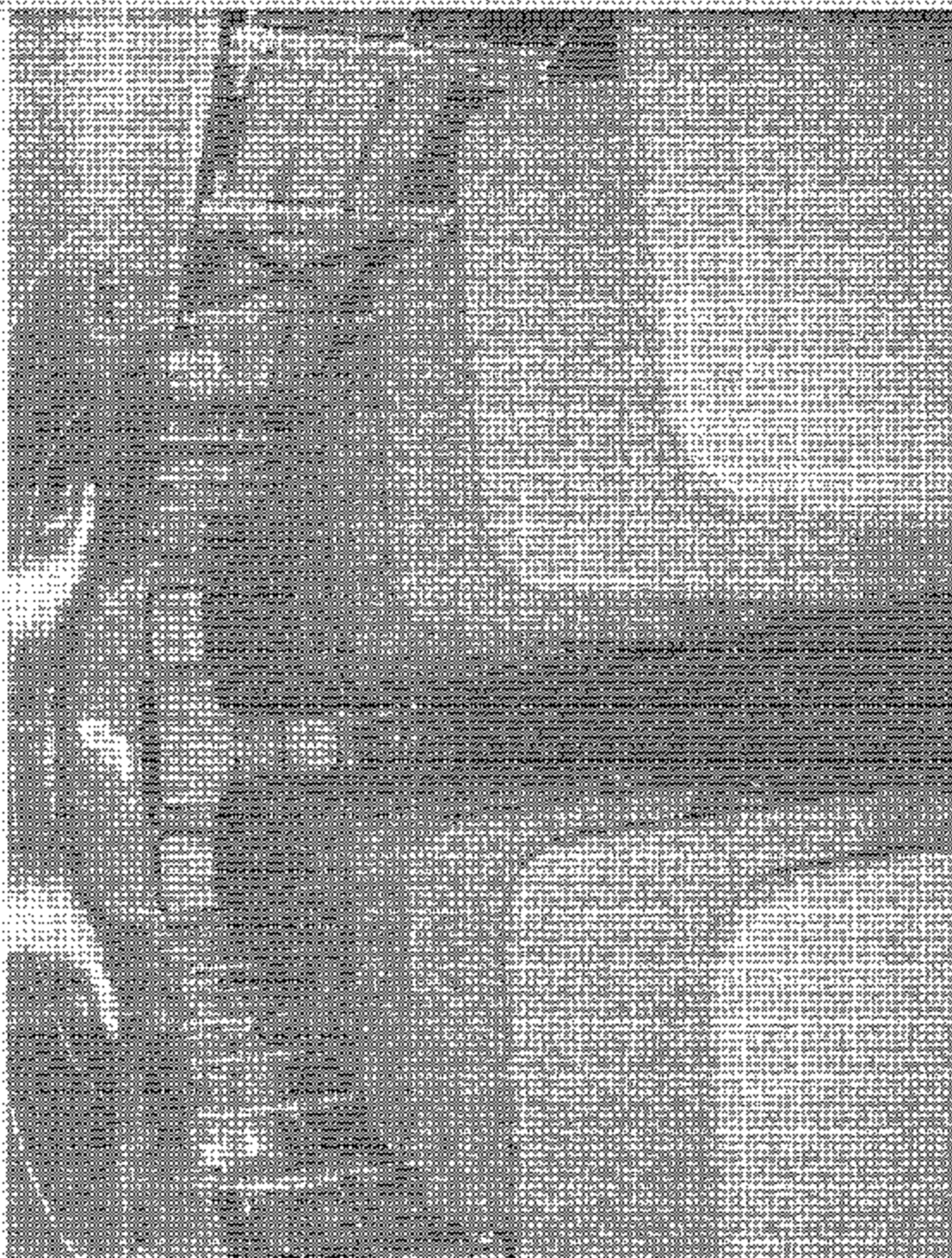
Test Vehicle: 2005 A/C IC350 School Bus  
Photographs: 1  
Procedure: FMVSS 217  
Exterior Left Front 3/4 View of School Bus  
NHTSA No: C25552



Test Vehicle: 2002 GMC ACADEIA School Bus  
Procedure: FMVSS 217  
NHTSA NO: C36012

Photograph 21  
Exterior Front View of School Bus

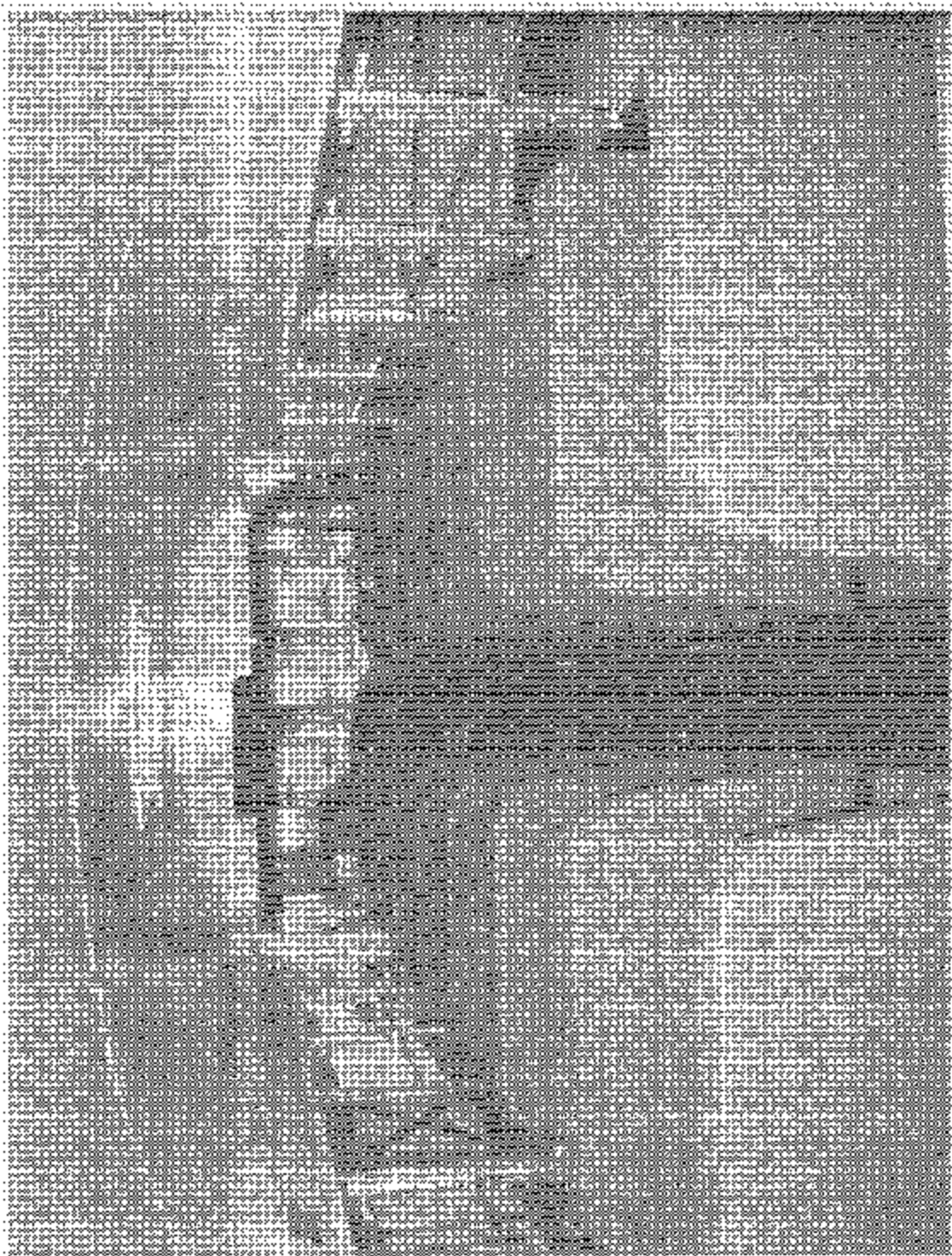




Test Vehicle: 2003 A/C Access School Bus  
Procedure: PMV33 717  
NHTSA No: C-35002

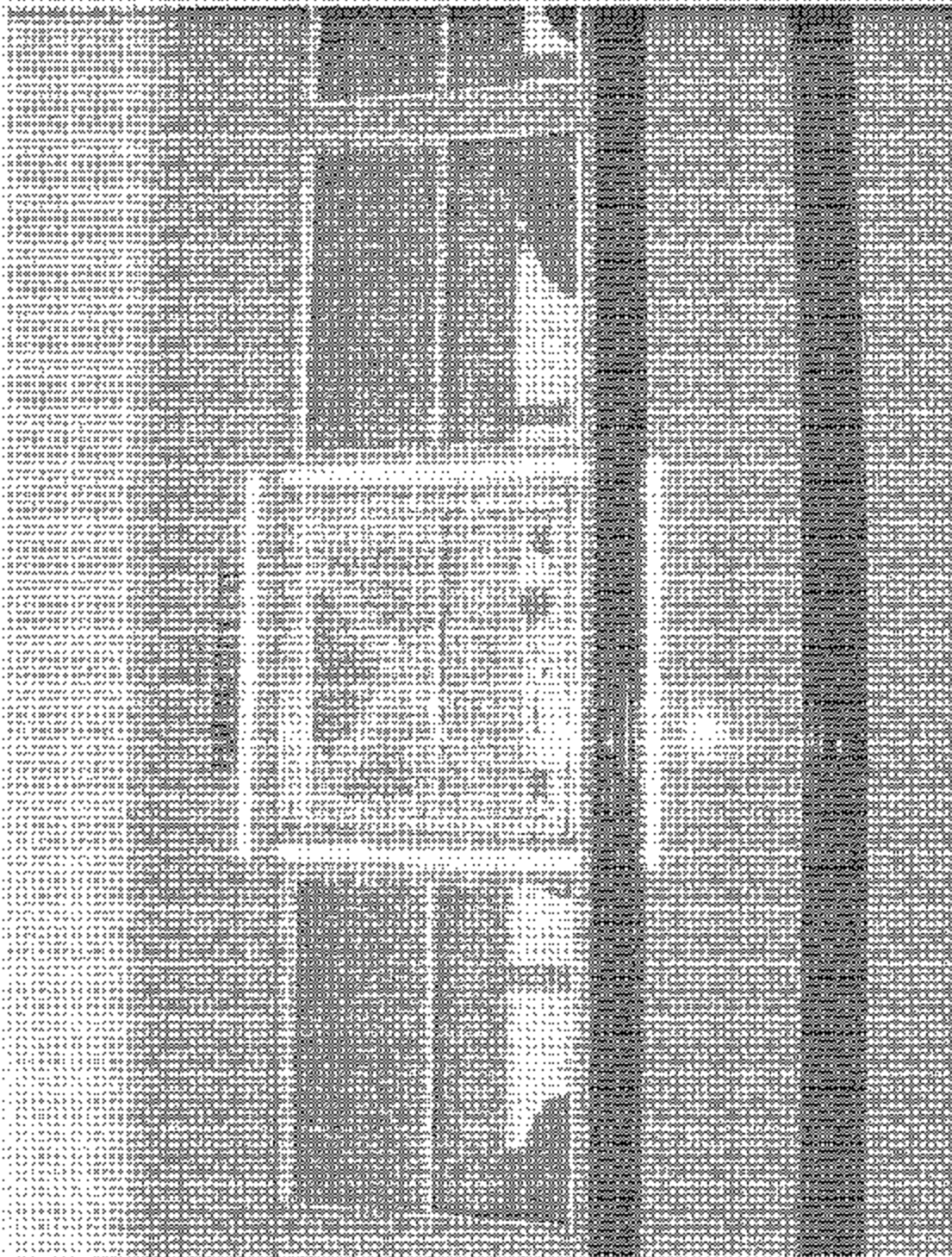
Photograph 4:  
Interior View of Rear View Mirror Assembly





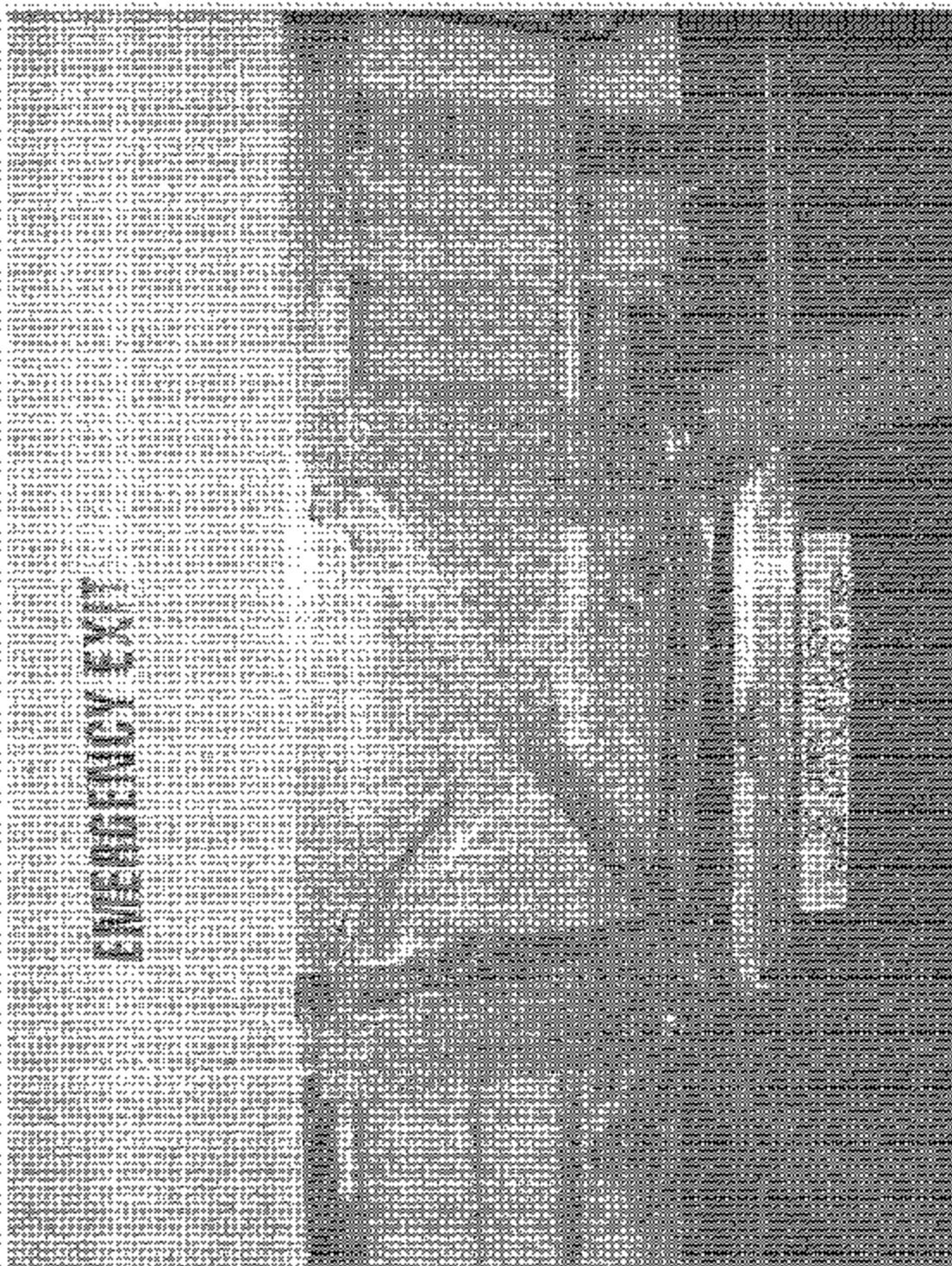
Test Vehicle: 2001 ATC C39530 School Bus  
Procedure: FMVSS #12  
NHTSA No.: C39862

Photograph:  
Interior View of Front View Displaying Seating Arrangement



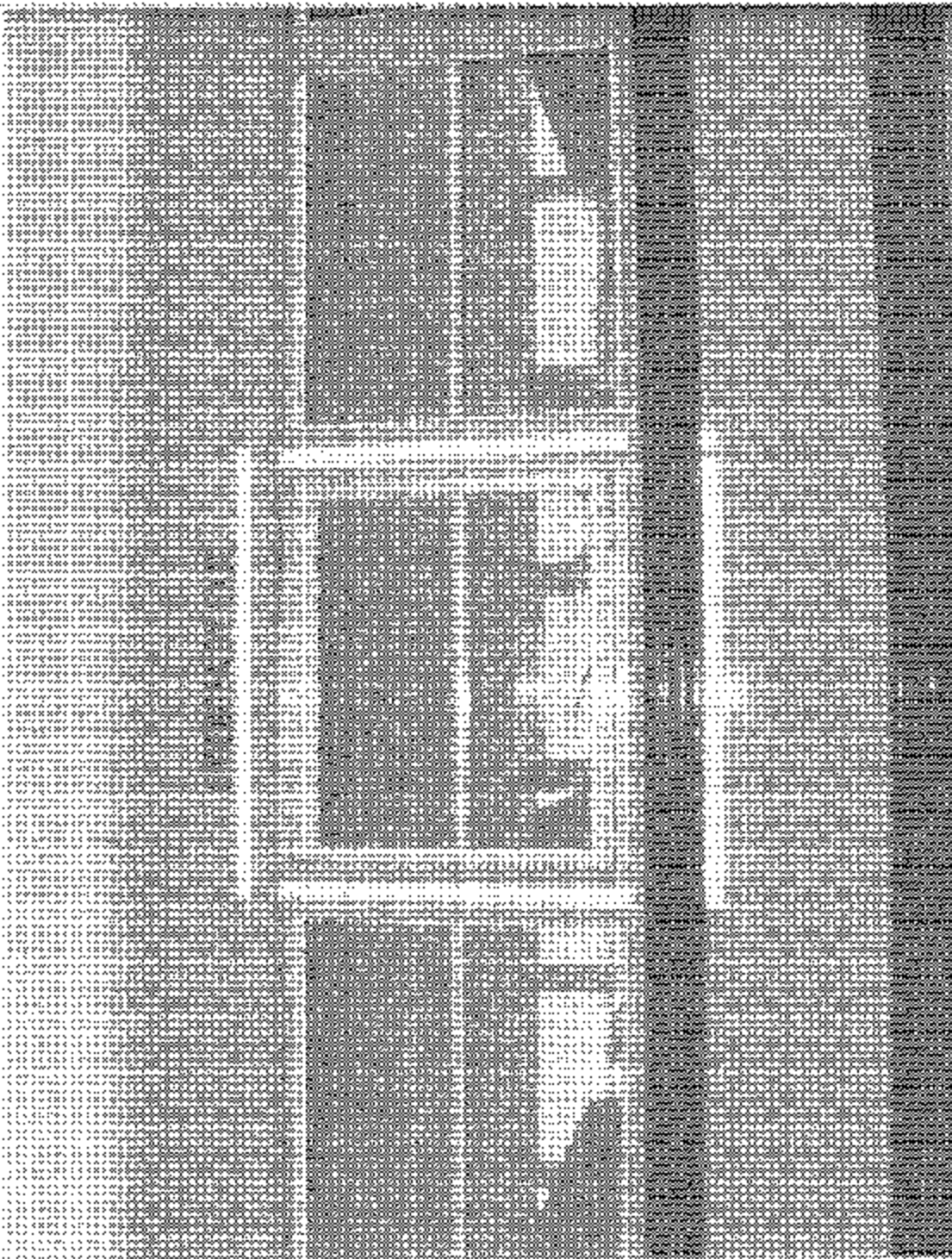
Test Venue: 2003 ATO (200300) School Bus  
Procedure: FMVSS 217  
NHTSA N: 630202

Pentagon 9  
Lufthansa Cargo (Ottawa-New)



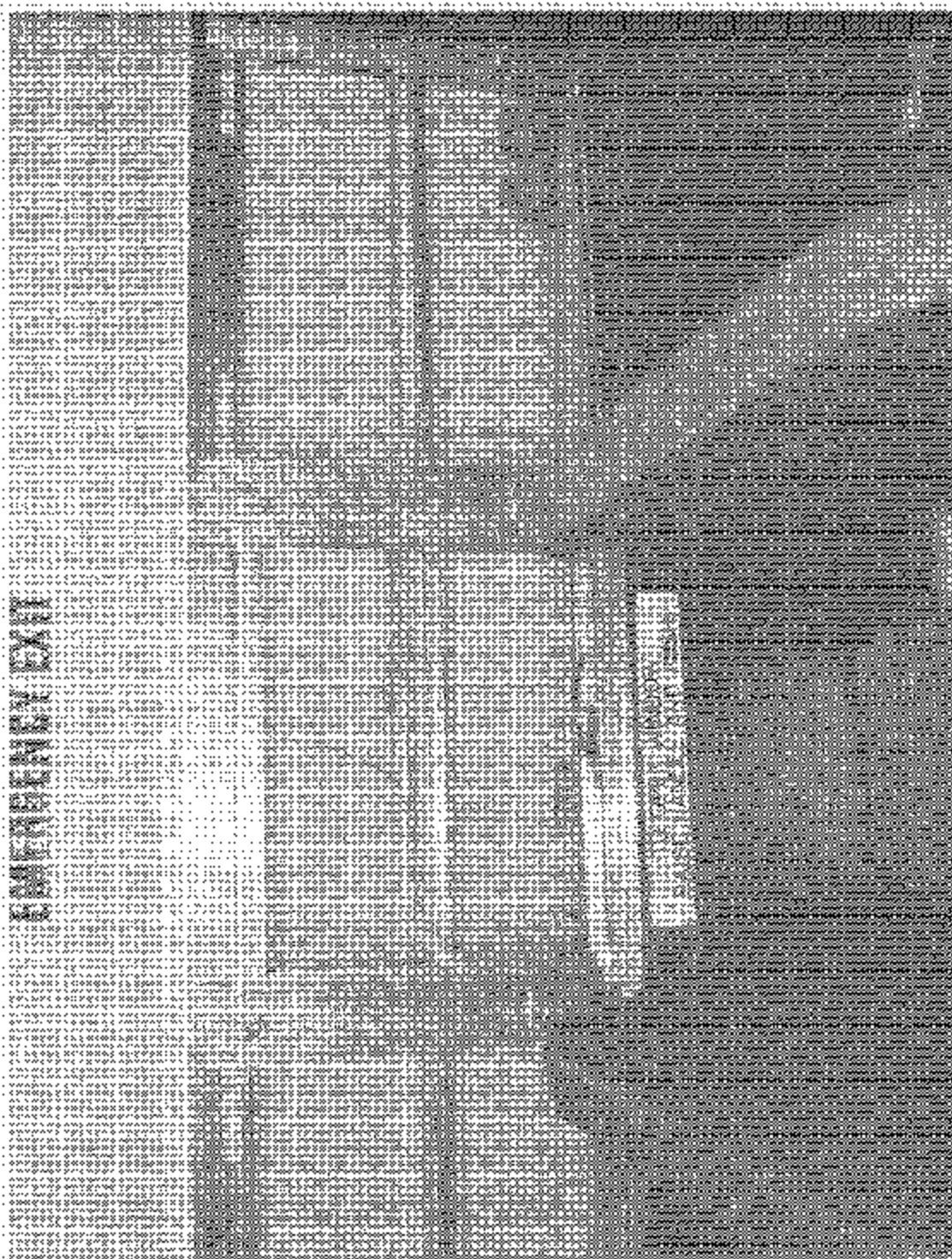
Test Vehicle: 2001 ATC Cassette School Bus  
Procedure: FMVSS 217  
NHTSA No.: CUC002

Photograph 2:  
Left Front Exit Window Identification (Inside View)



Photograph 11:  
Left Noor Exit View of the Identification (Outside View)

Test Vehicle: 2002 A/C JCS500 School Bus  
Placards: FNY35 417  
NHISA #: 030002



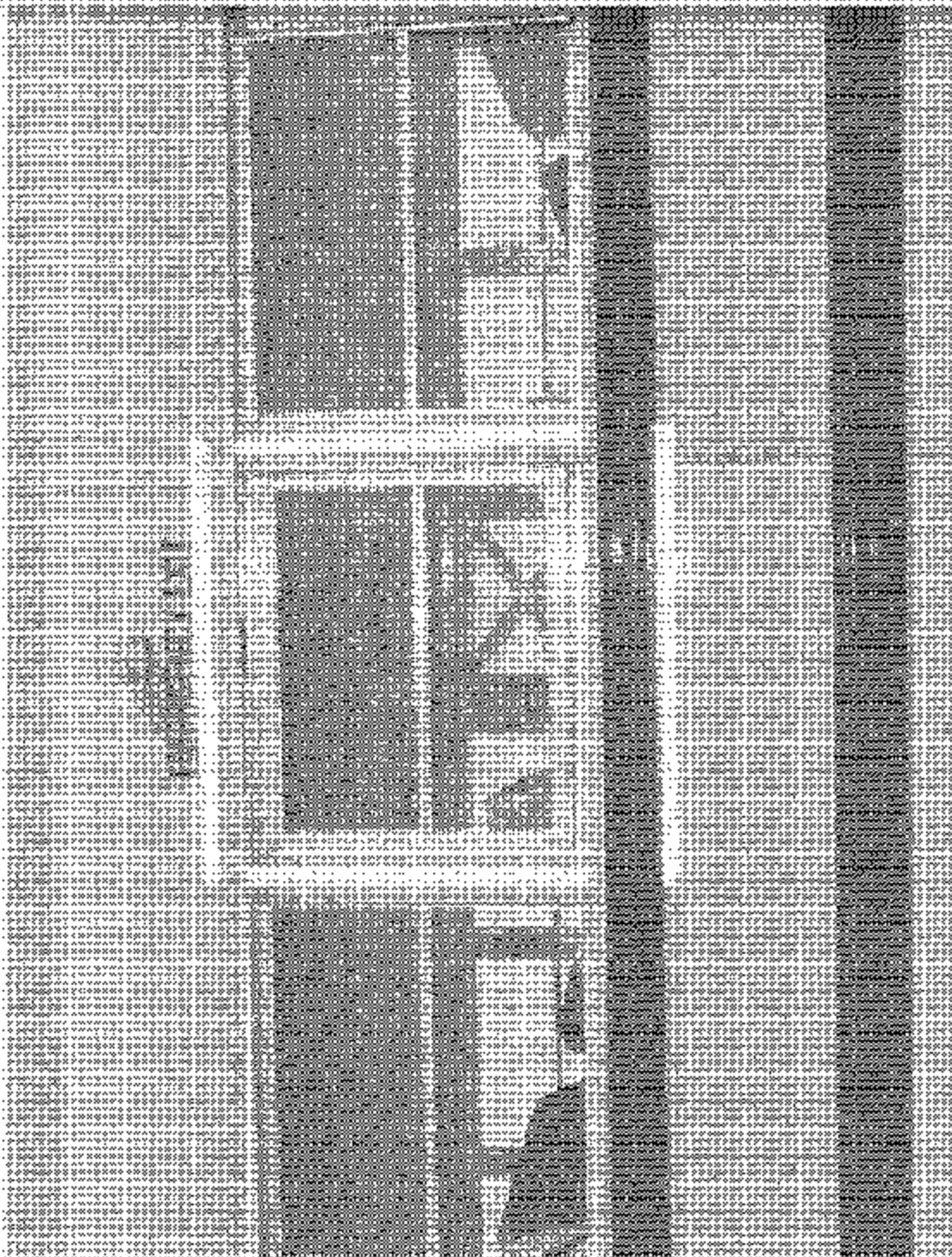
Test Vehicle: 2008 ATC D25550 School Bus

Procedure: FMVSS 217

NHTSA No.: 039202

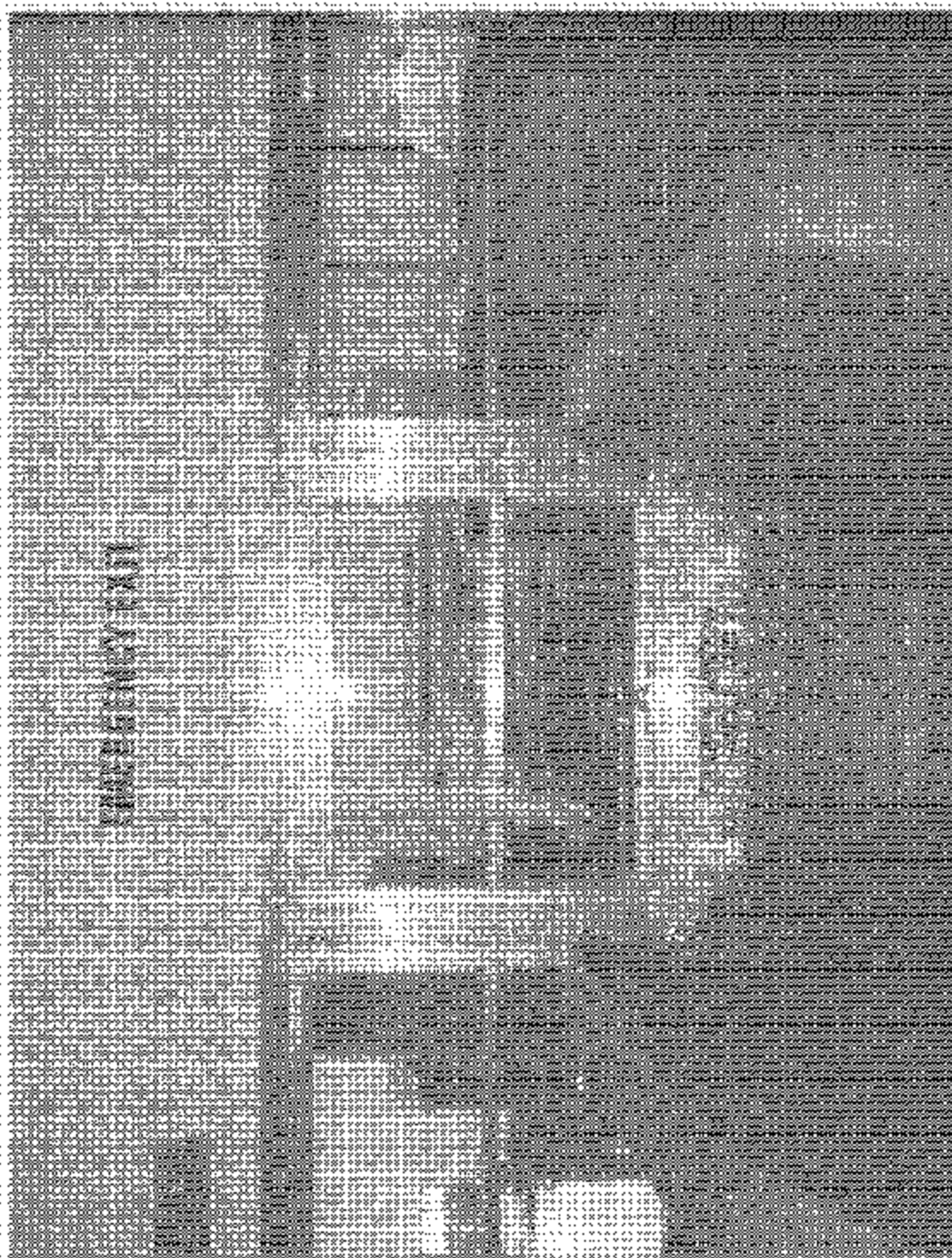
Photograph 9:

Left Rear Exit Window Identification (Inside View)



Test Vehicle 2008 A/C Access School Bus  
Procedure PAVAS 217  
NHTSA No. 200902

Photograph to  
Night View and Window Identification (Census View)



Test Vehicle: 2004 ATC/CJ3500 School Bus  
Procedure: FMVSS #17  
NHTSA No: C55902

Photograph 11  
Right Front Side Window Identification (Inside View)



Test Vehicle: 2003 A/C ACCESS School Bus  
Procedure: FMVSS 217  
NHTSA No. C-60002

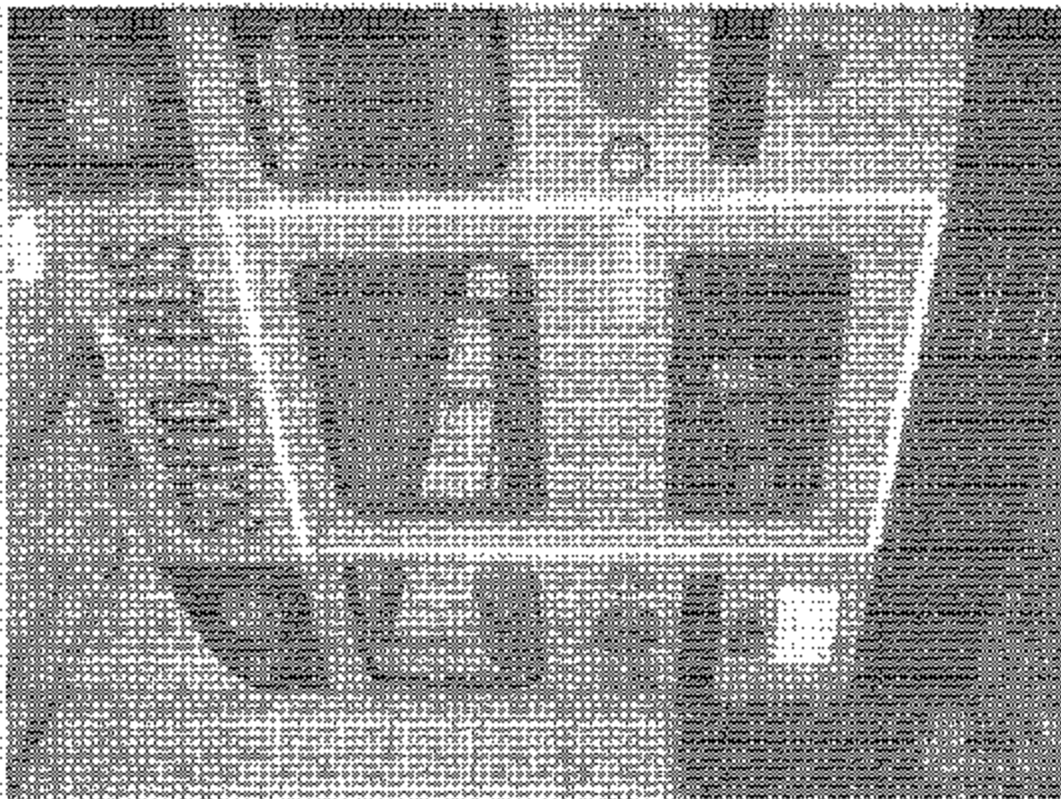
Photograph 12:  
Right Rear Side Window Identification (Outside View)





Test Vehicle: 2003 A/C ICAS 510 School Bus  
Procedure: NIVSS 217  
NHTSA No: 010902

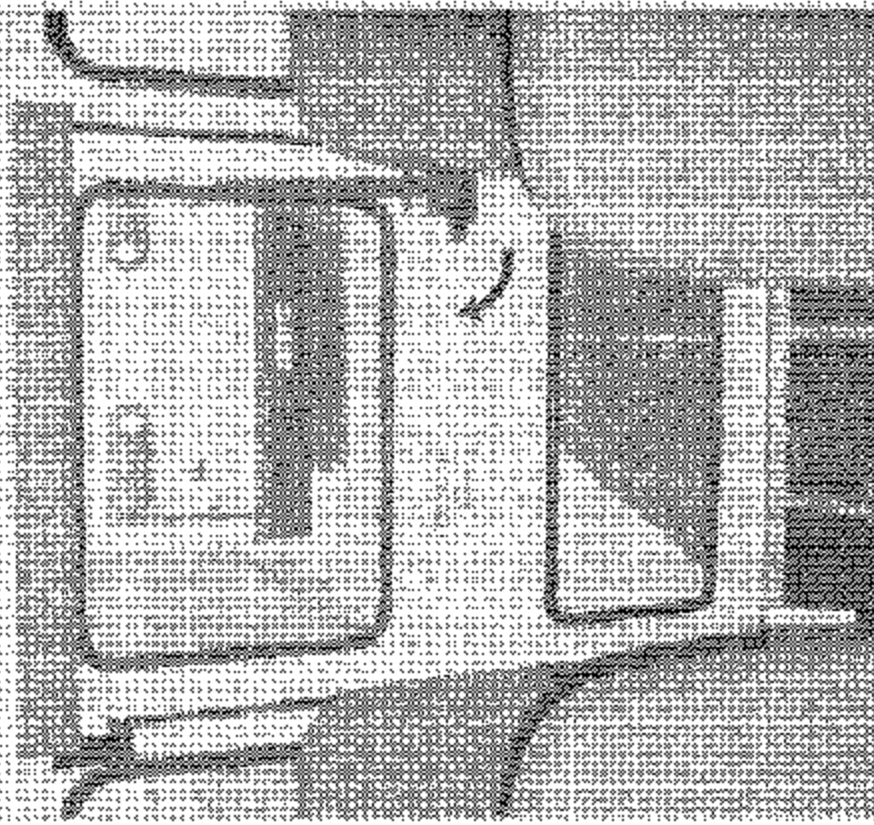
Photograph 13:  
Right Rear Exit Window Identification (Interior View)



Test Vehicle: 2002 ATO 1035530 School Bus  
Procedure: FMVSS P17  
NHTSA No: C00802

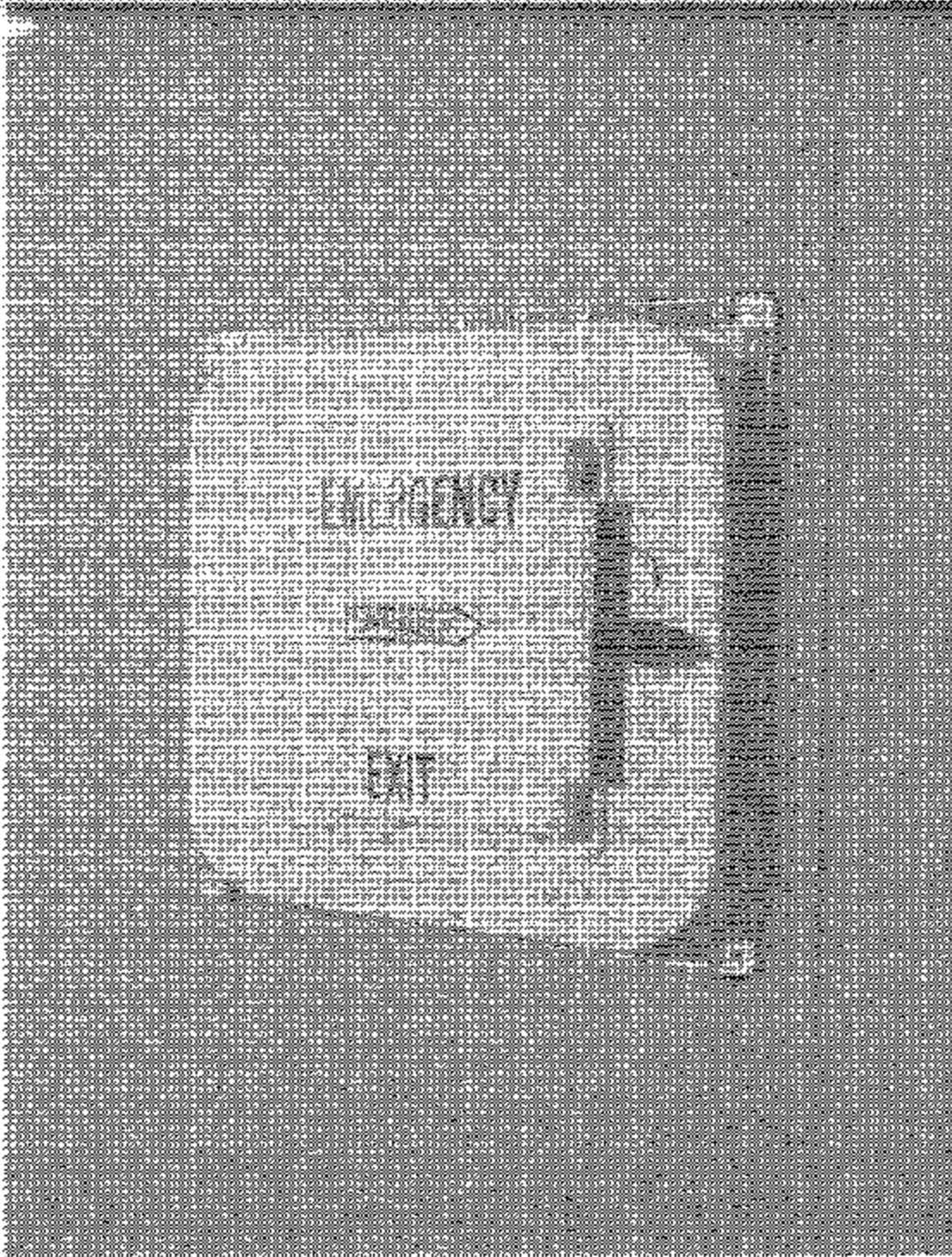
Photograph 14:  
Rear Exterior Identification Outside View

CHRYSLER



Test Vehicle: 2003 A TC1035850 School Bus  
Procedure: FMVSS 217  
NHTSA No: CM0902

Photograph 15:  
Rear Exterior Identification (Inside View)

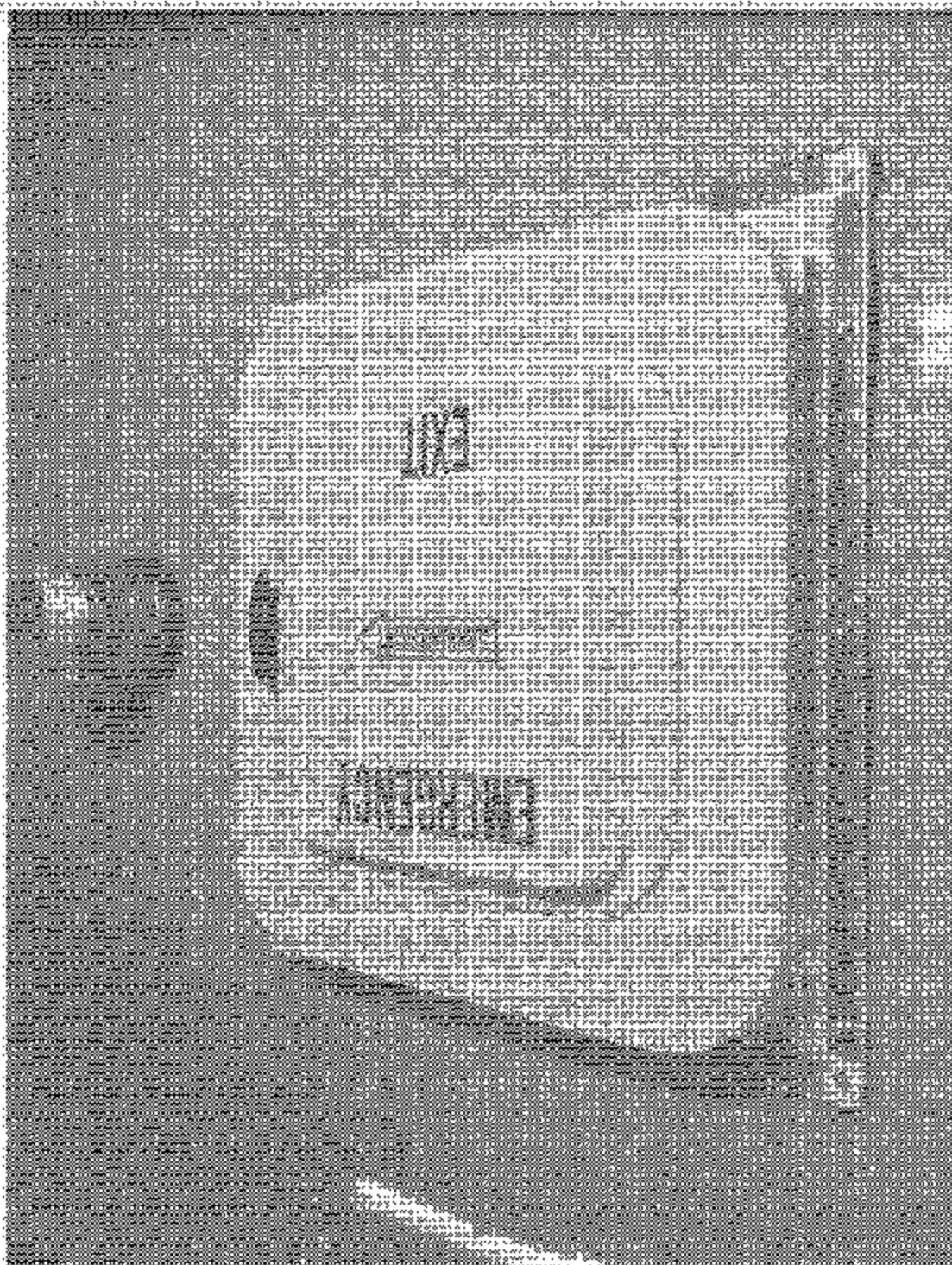


Photograph 1A  
Front-Right Motor Identification - Outside View

Test Vehicle: 2001 AYC 1024550 School Bus  
Procedure: FMVSS 217  
NHTSA No: C30902



Test Vehicle: 2004 A/C Cadillac School Bus  
Photograph 17:  
Front Roof Hatch Identification Inside View  
Procedure: FMVSS 217  
NHTSA No.: C36502



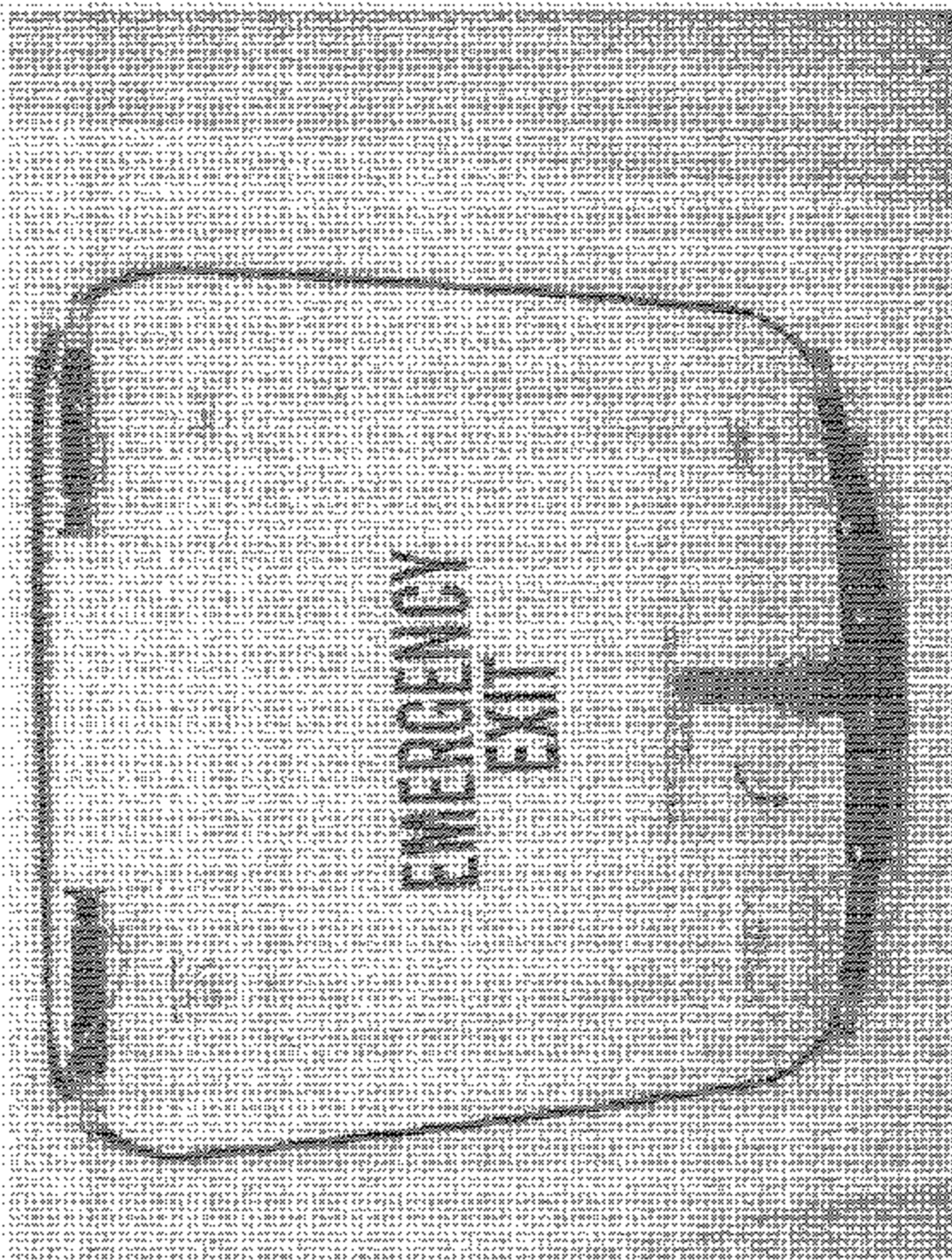
Photograph 18:

Rear Roof Rack Identification (Outside View)

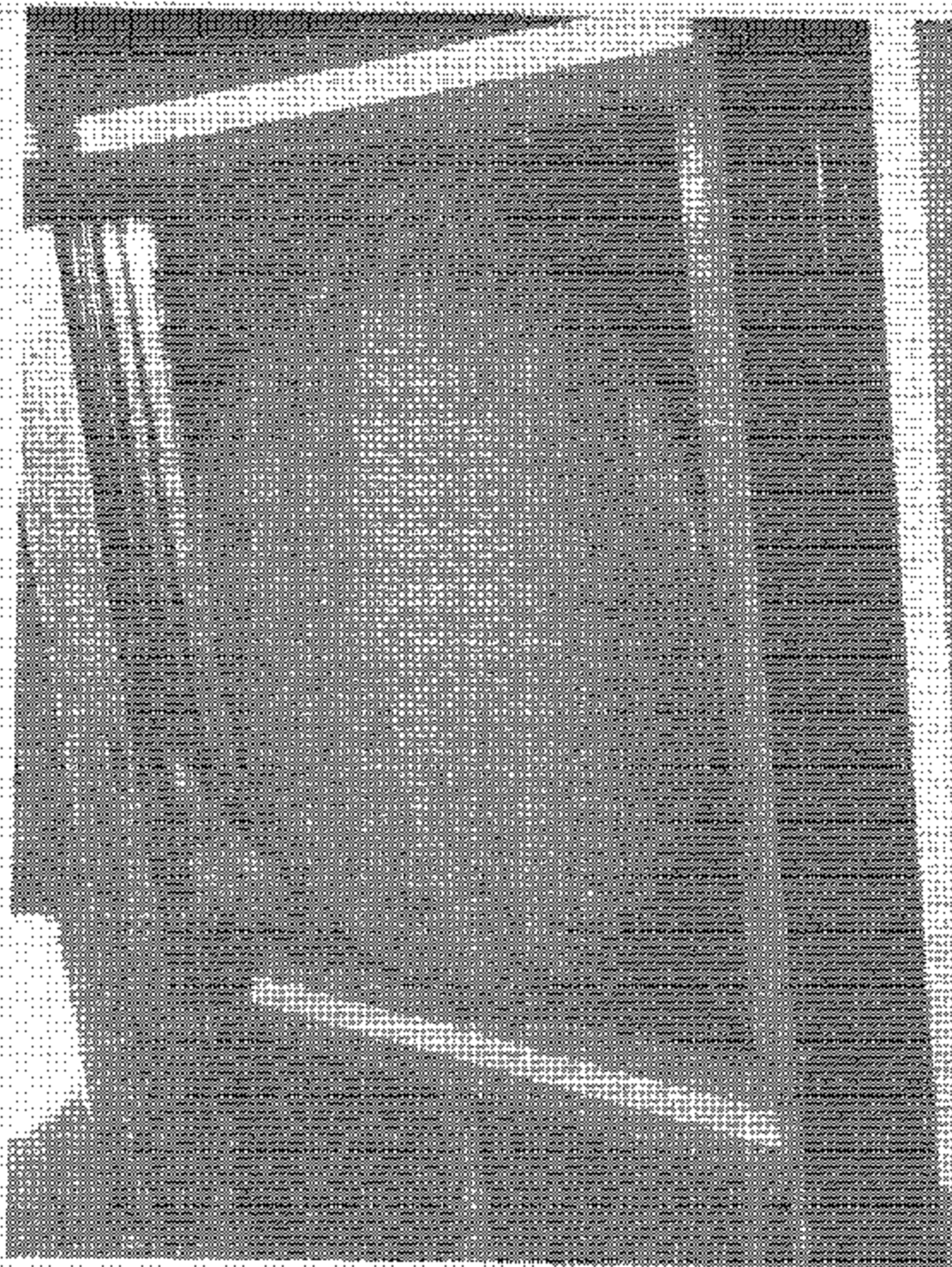
File Name: 2000 AYC IC35500 School Bus

Procedure: PAVSS 417

MTSA No: 030602



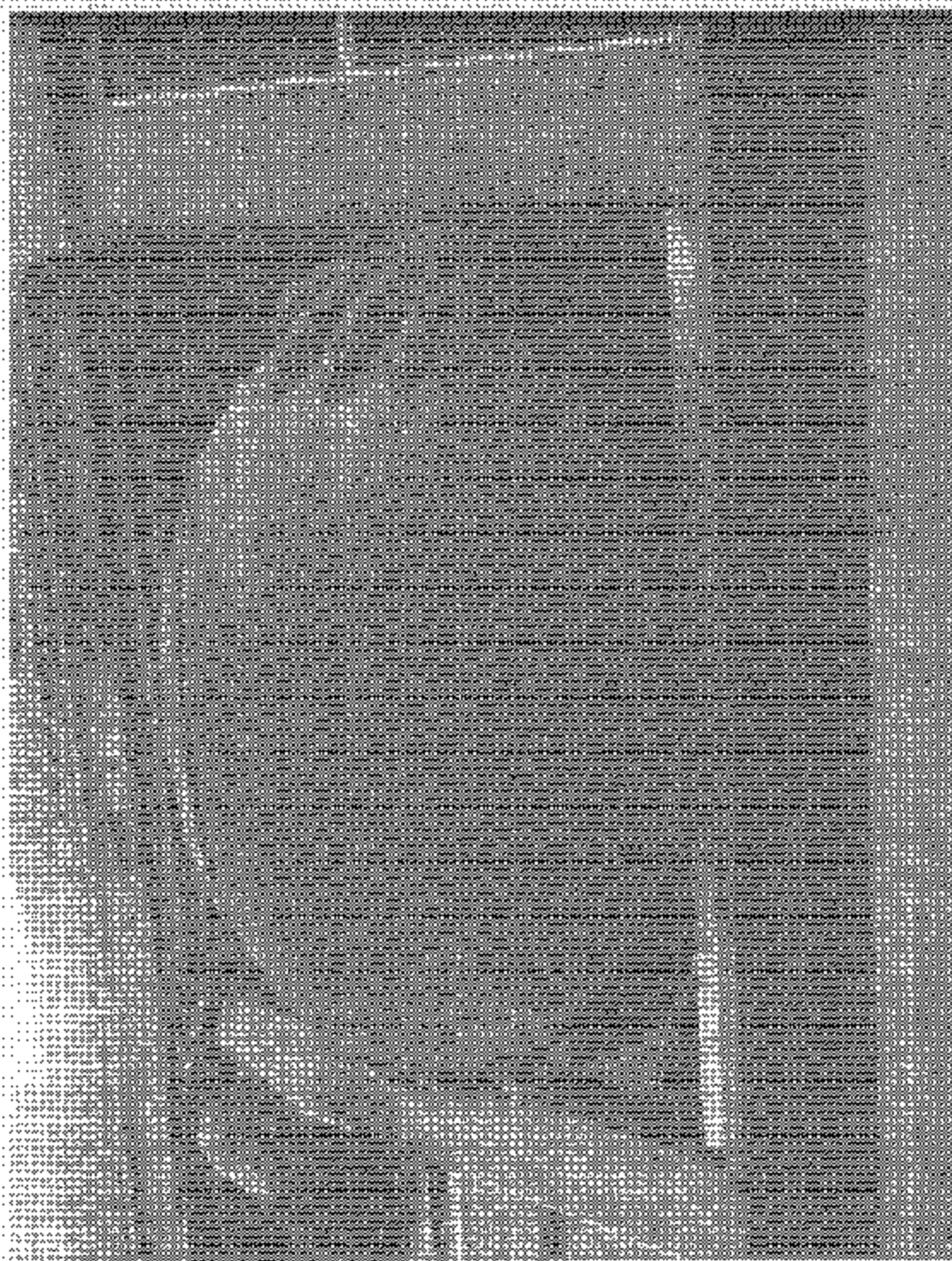
Test Vehicle: 2002 ATC TC25510 School Bus  
Procedure: FMVSS 217  
NAFTA No.: Q3202  
Photograph 19: Seat Row (Hard) Identification-Inside View



Test Vehicle 2004 ATC 1015530 School Bus  
Procedure 70055-217  
NHTSA No. C10902

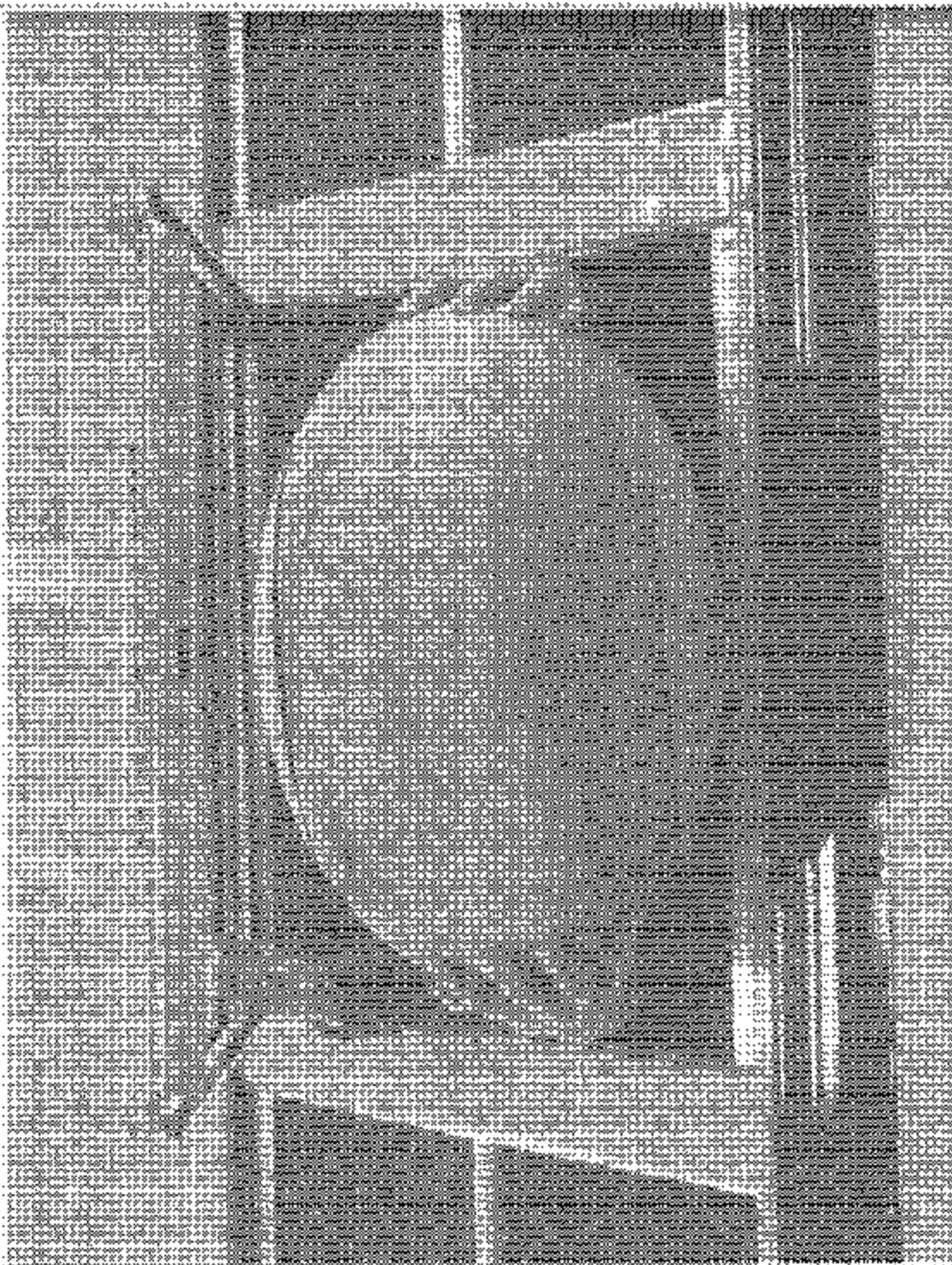
Photograph 20  
Left Front View of Emergency Exit Egress Component





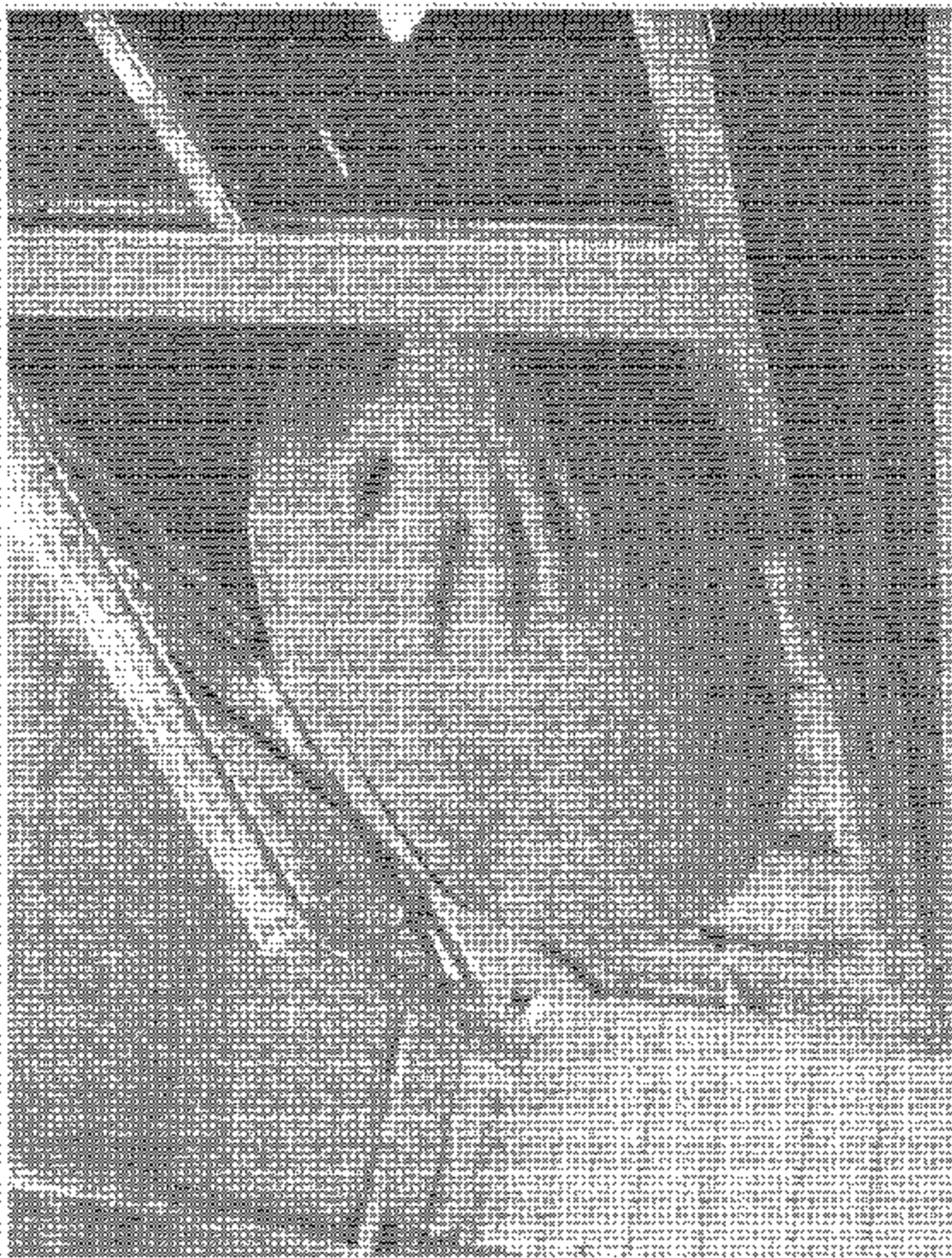
Test Vehicle: 2002 ATC C3550 School Bus  
Procedure: FMVSS 217  
NHTSA No: 009908

Photograph 2K  
Left Side Window Emergency Exit Clearance



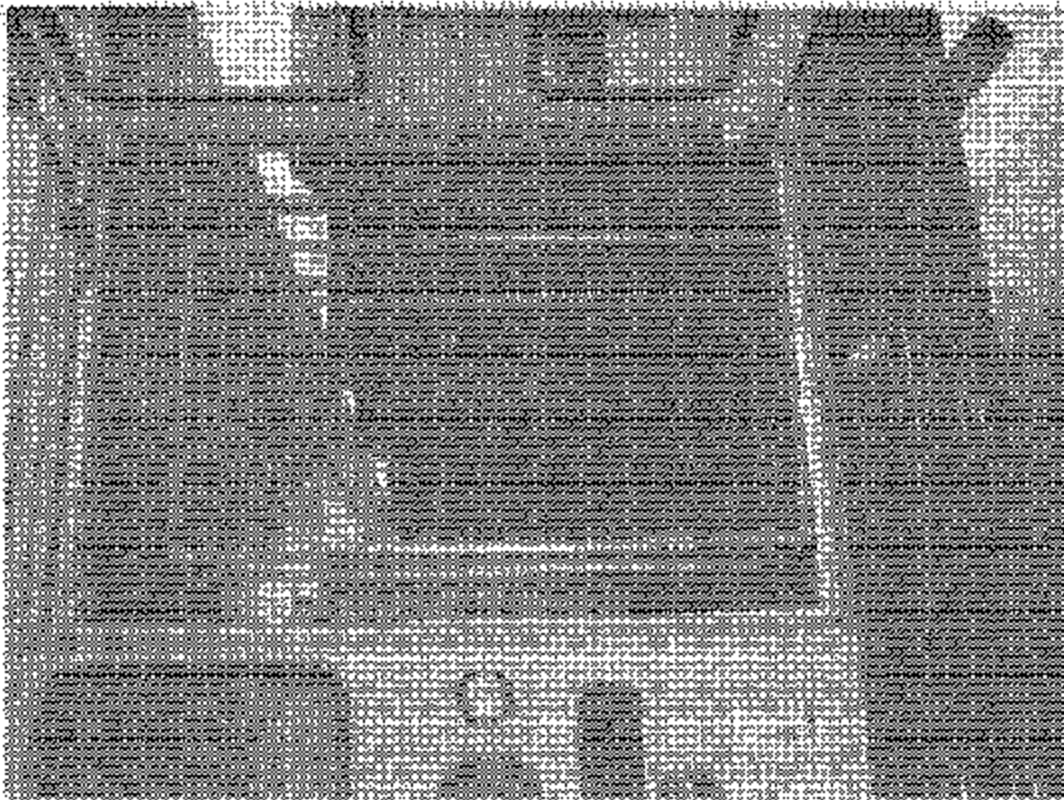
Test Vehicle: 2003 A/C ICSS600 School Bus  
Procedure: FMVSS 217  
NHTSA No.: C-38903

Photograph 23:  
Right Front View of Emergency Exit Window Clearance



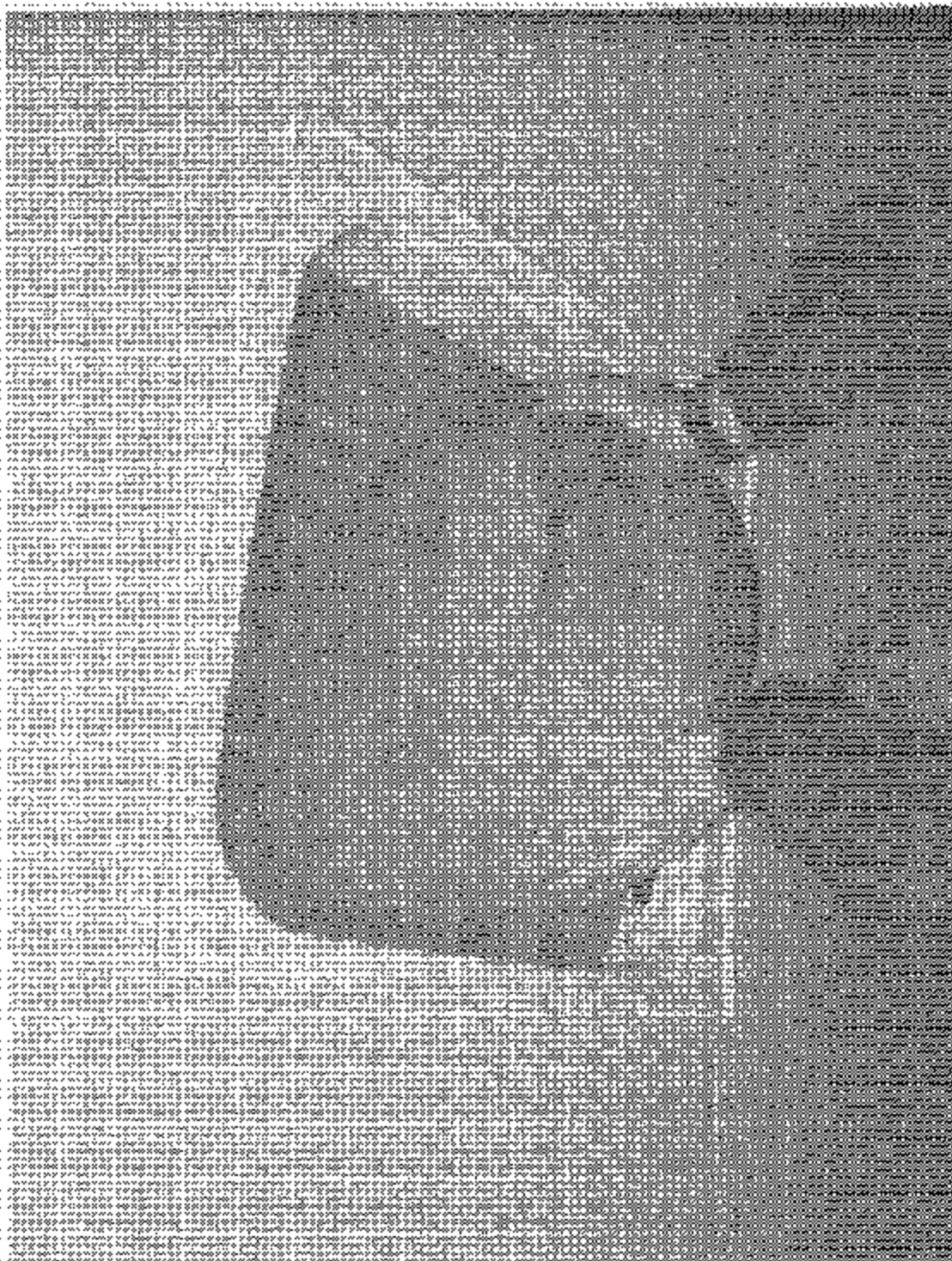
Test Version: 2025 ATO KAS510 School Bus  
Procedure: FMVSS 217  
NHTSA No.: C3002

Photograph 12:  
Eight Hour Window Emergency Exit Equipment Ok and No



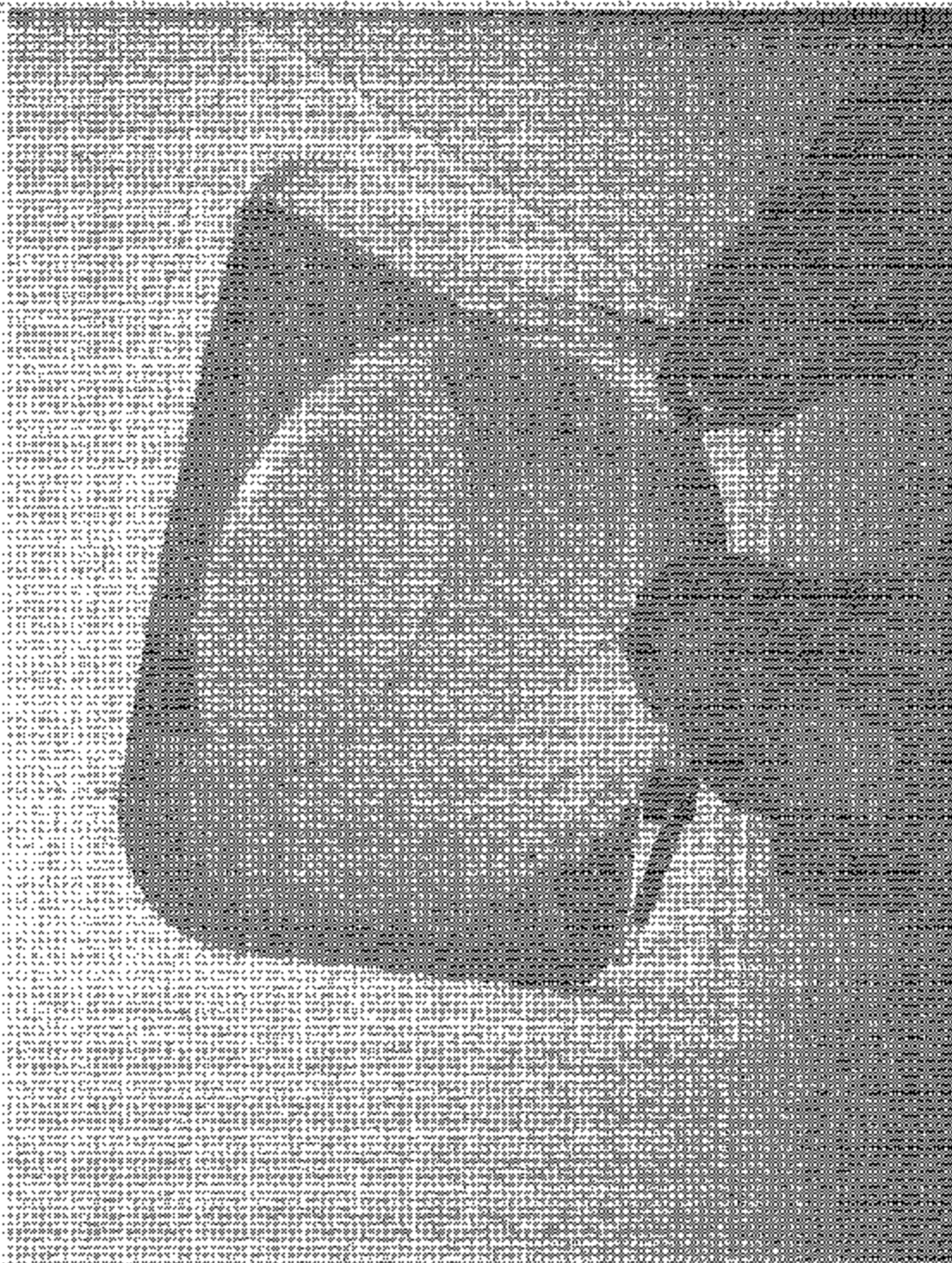
Physiograph 2A  
Rear View Photography, Six Different Angles

Test Vehicle: 2005 A/C ACESSE School Bus  
Procedure: PMS 217  
NHTSA No.: C00602



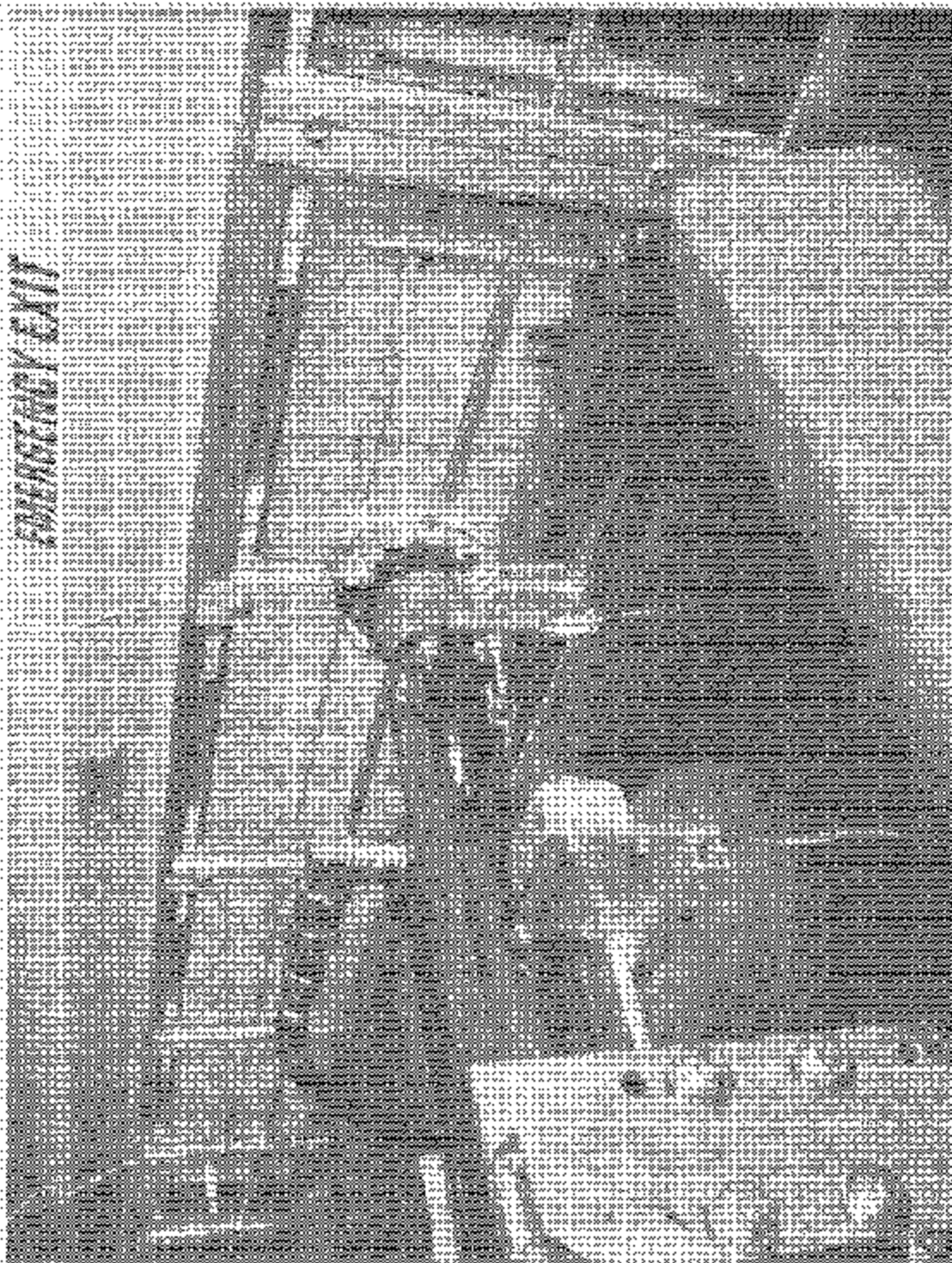
Test Vehicle: 2004 Acura Integra Sedan  
Propulsion: FWD  
NHTSA No: CAC002

Photograph 25:  
Front Roof Hatch Emergency Exit Egress Clearance



Photograph 26:  
Sgt. Ronald E. Erenberg, U.S. Marine Corps

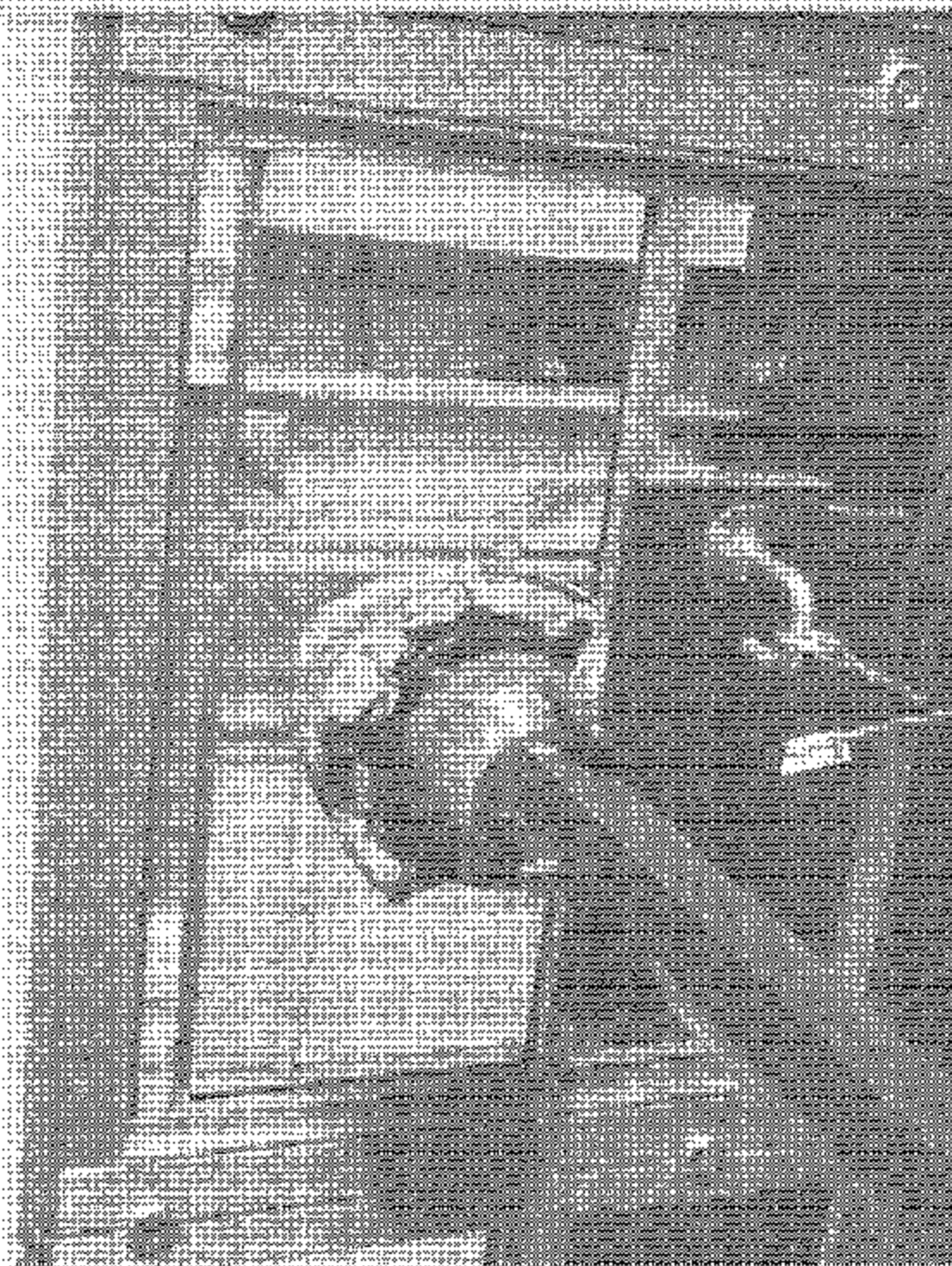
Test Vehicle: 2008 ATOC35500 School Bus  
Procedure: NHTSA 217  
NHTSA No. C36002



EMERGENCY EXIT

Photograph 21  
Loading Failure

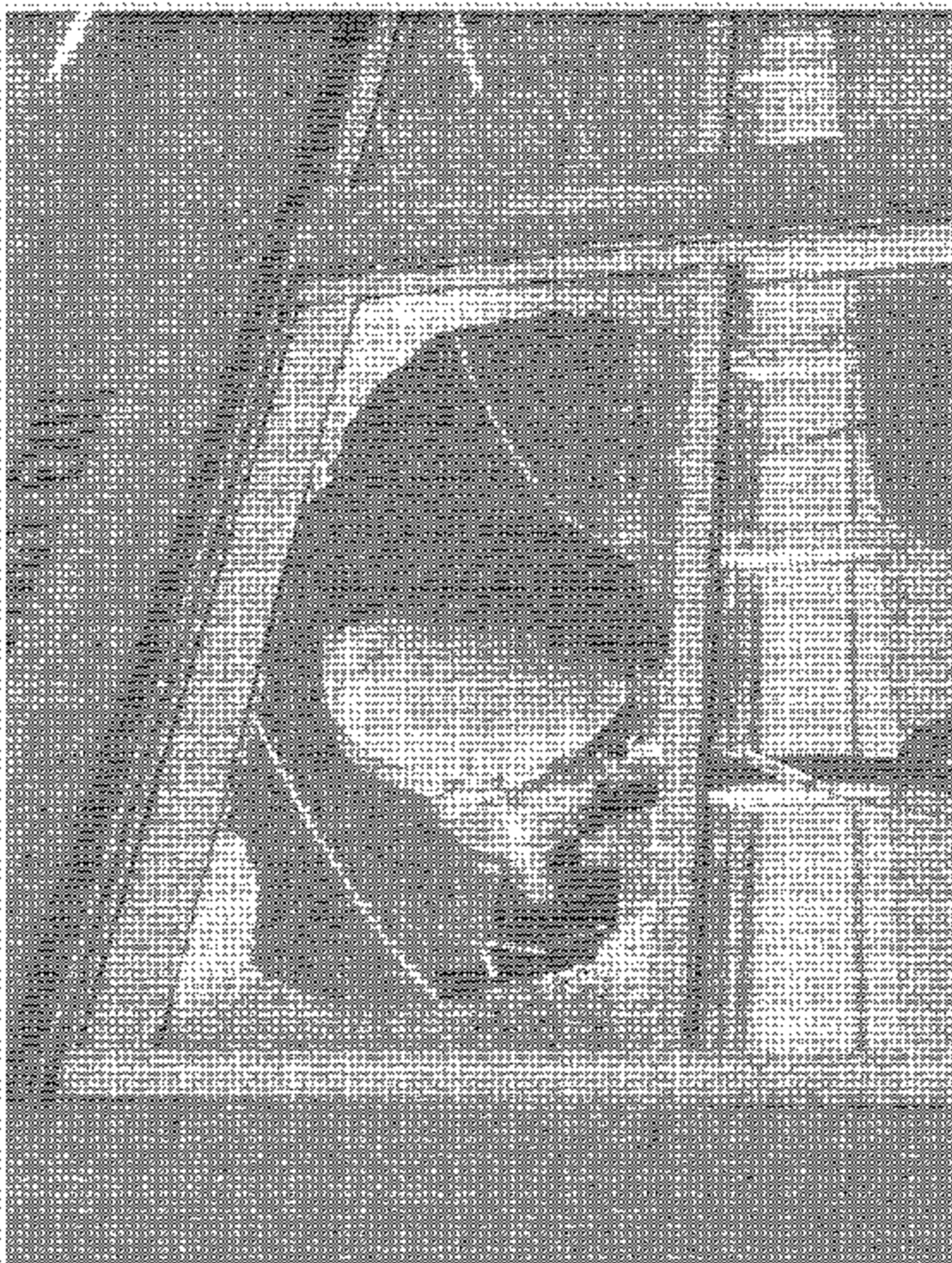
Yes/No: 2023 ATC IC-15559 Duhof 506  
Procedure: FMVSS 217  
NHTSA No: C64802



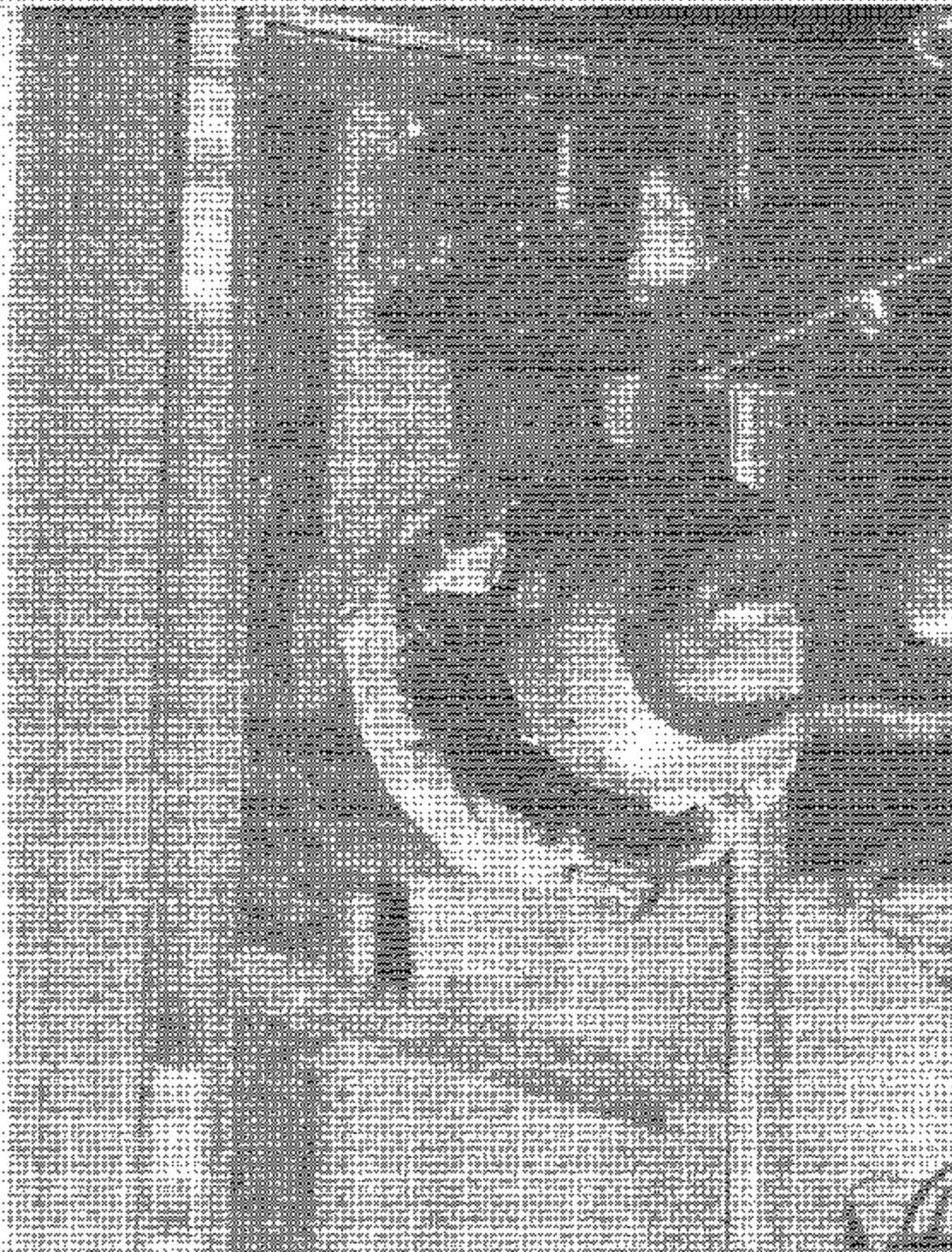
Photograph 28:  
Acceleration Test of Left Front Window (Pilot Seat)

Test Vehicle: 2000 A/C AC35555 School Bus  
Procedure: WAFSS 2.15  
NHTSA No. CA35552



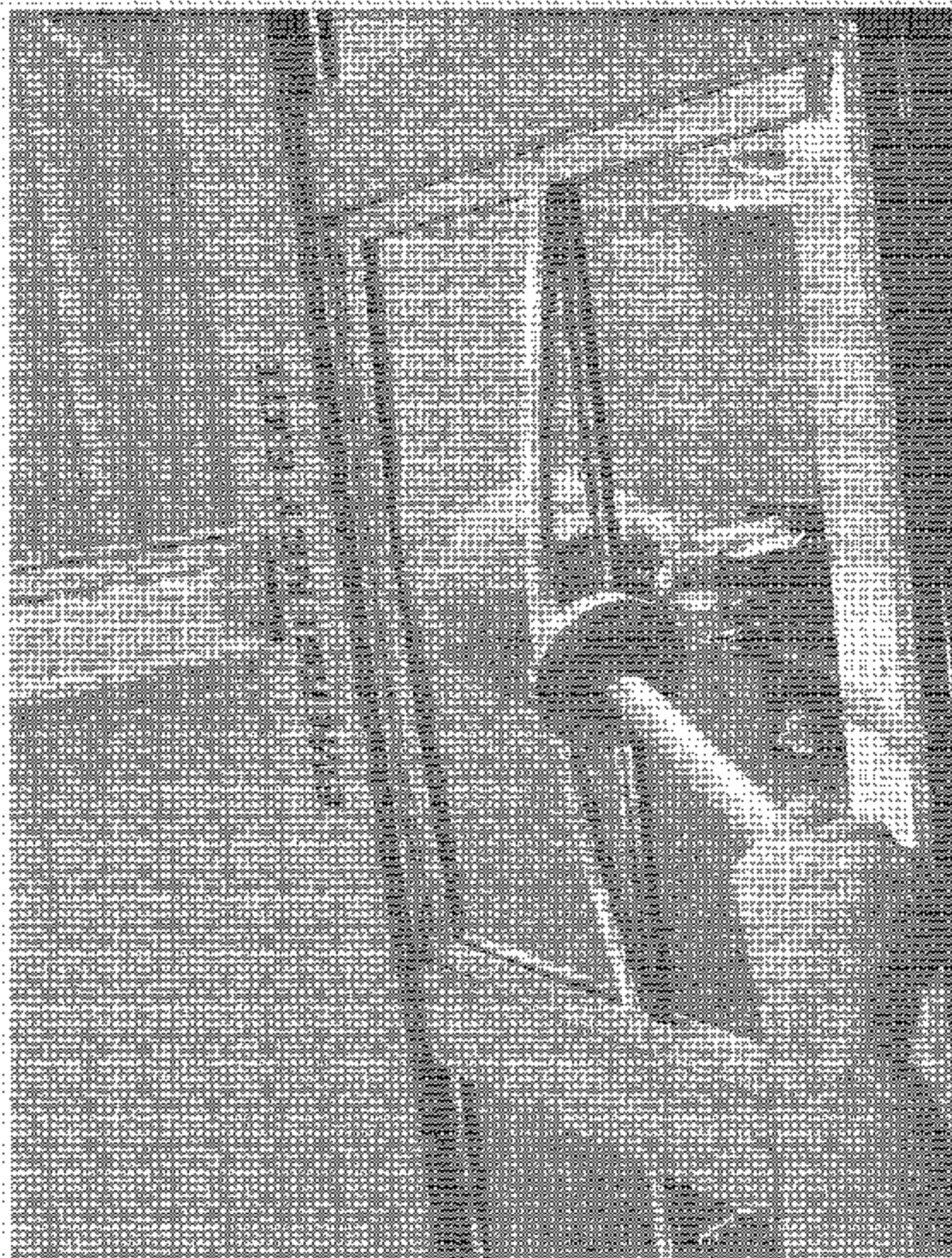


Test Vehicle: 2004 ATC C26520 School Bus  
Procedure: FMVSS 217  
NHTSA No.: C09202  
Photograph 29  
Submission Test of Left Front Window (Pass Test)



PHOTOGRAPH 30:  
RECEIVED 1982 07 01 11 00 00 (P10-108)

Test Vehicle: 2012 A15 AC6630 School Bus  
Procedure: FMVSS 217  
NHTSA No.: 630902



Test Vehicle: 2002 ATC DC35560 School Bus  
Procedure: FMVSS 217  
NHISA No.: 030962

Photograph 31:  
Retention Test of Right Front Window (In Progress)

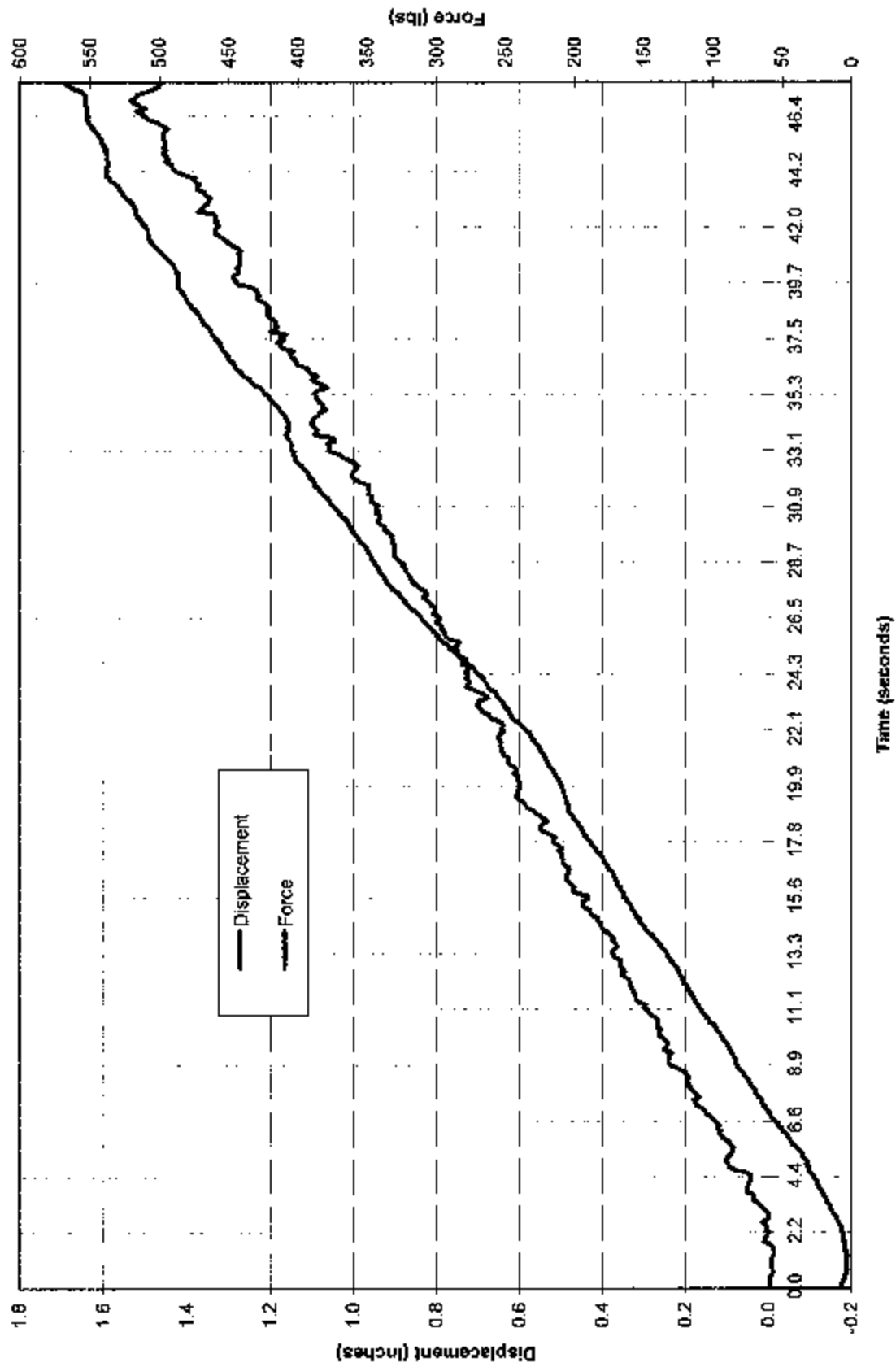


Test Vehicle: 2003 ATC KC35510 Sedan-BLW  
Procedure: FMVSS 217  
NHTSA No: 030012

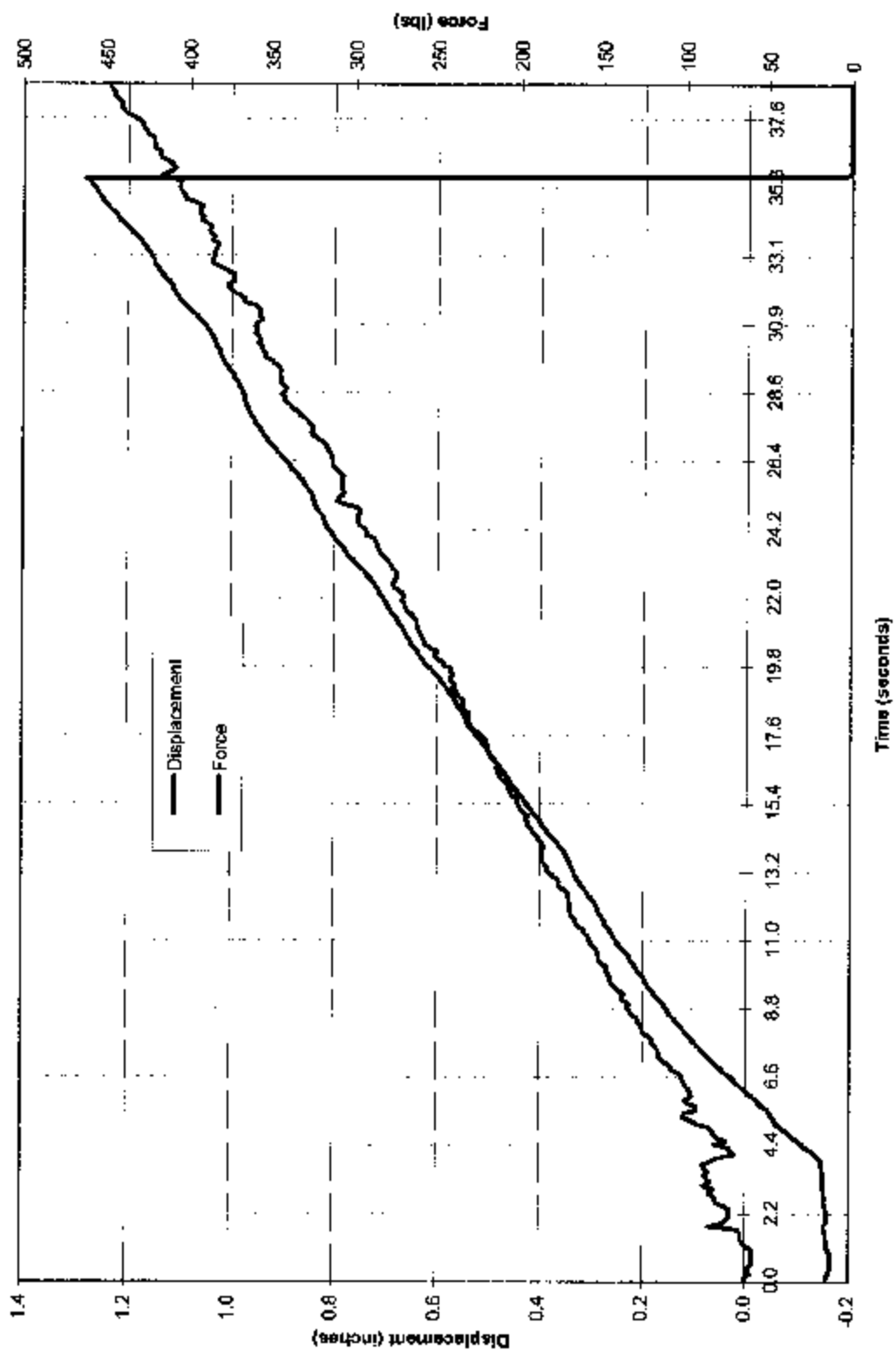
Photographer: J.C.  
Reference: Test of Right Front Window Post Test

**SECTION 6**  
**TEST PLOTS**

FMVSS 217 NHTSA No: C30902  
 ATC IC3S530 Right Front Window - Upper Pane



FMVSS 217 NHTSA No: C30902  
 ATC IC3S630 Left Front Window - Upper Pane



**SECTION 7**  
**LABORATORY NOTICE OF TEST FAILURE**



**LABORATORY NOTICE OF TEST FAILURE TO OVSC**

Test Procedure:	FMVSS 217	Test Date:	March 17, 2003
Test Vehicle:	2003 ATC IC3S530	Test Lab:	MGA Research Corporation
NHTSA No.:	C30902	Project Engineer:	Michael Janovicz
Contract No.:	DTNH22-02-D-01057	Deliv. Order No.:	1
MFR.:	American Transportation Corporation	VIN:	4DRBRABN73B955119
Build Date:	10/02		

**TEST FAILURE DESCRIPTION**

The reflective tape outlining the outside opening of the front and rear roof hatches is silver in color. Per FMVSS 217 the reflective tape color should be red, white, or yellow in color.

**FMVSS REQUIREMENTS DESCRIPTION**

49CFR571.217 Paragraph S.5.5.3.c: "Each opening for a required emergency exit shall be outlined around its outside perimeter with a retroreflective tape with a minimum width of 2.5 centimeters and either red, white, or yellow in color."

**Remarks:** No remarks.

Notification to NHTSA (COTR): Amanda Prescott

Date: March 17, 2003

By: Michael Janovicz